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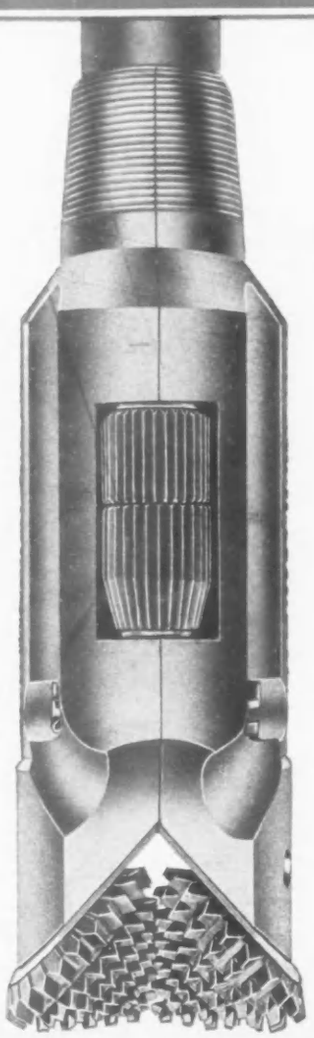

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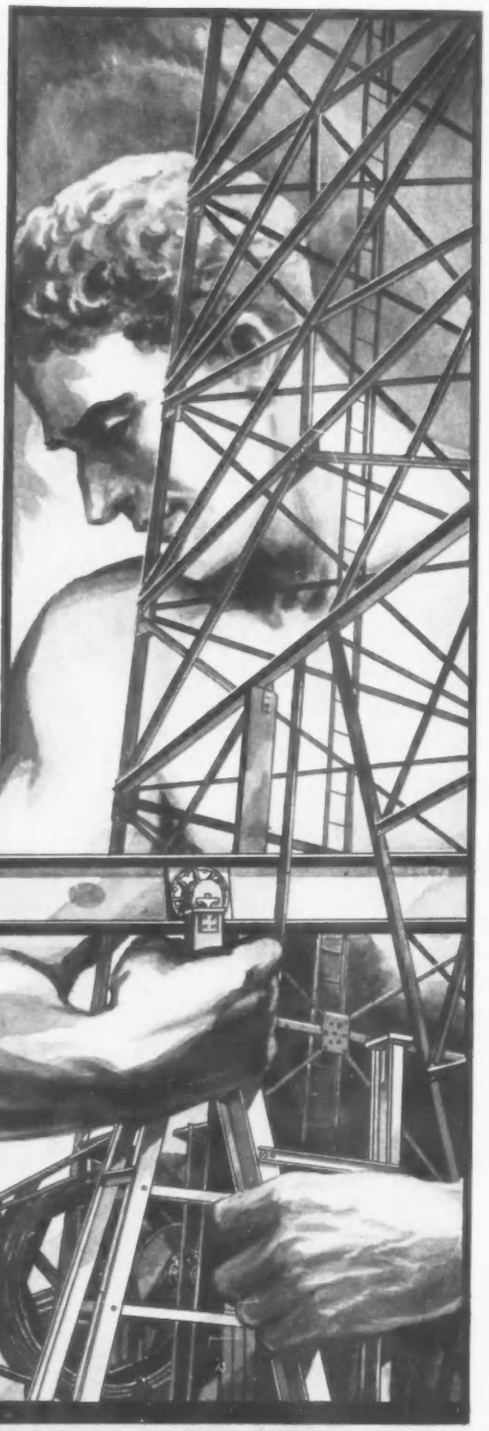
RIGIDITY



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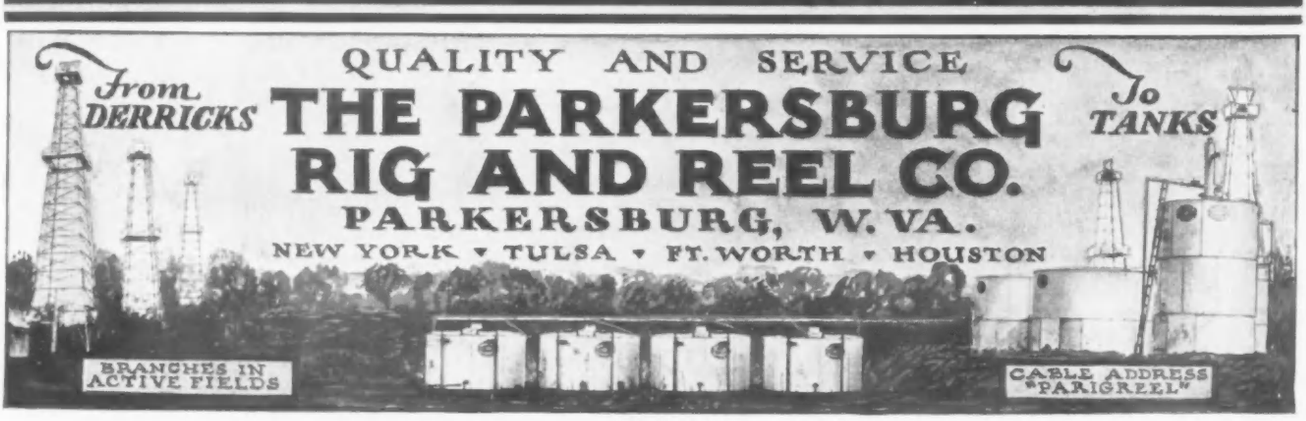
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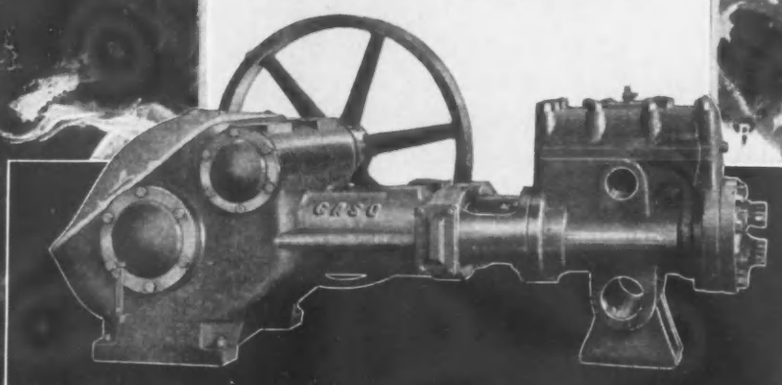

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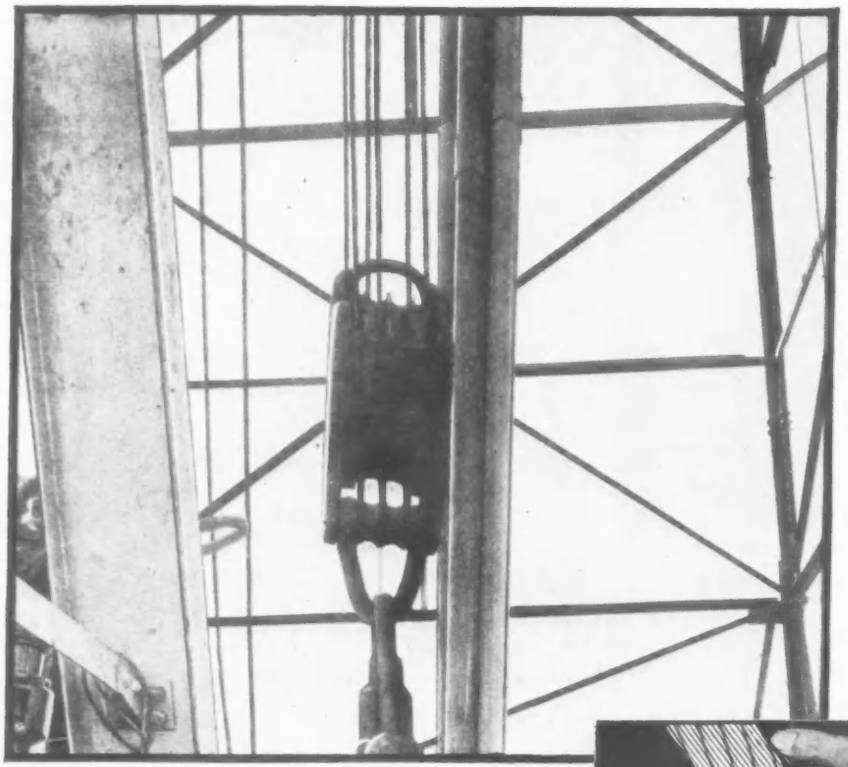

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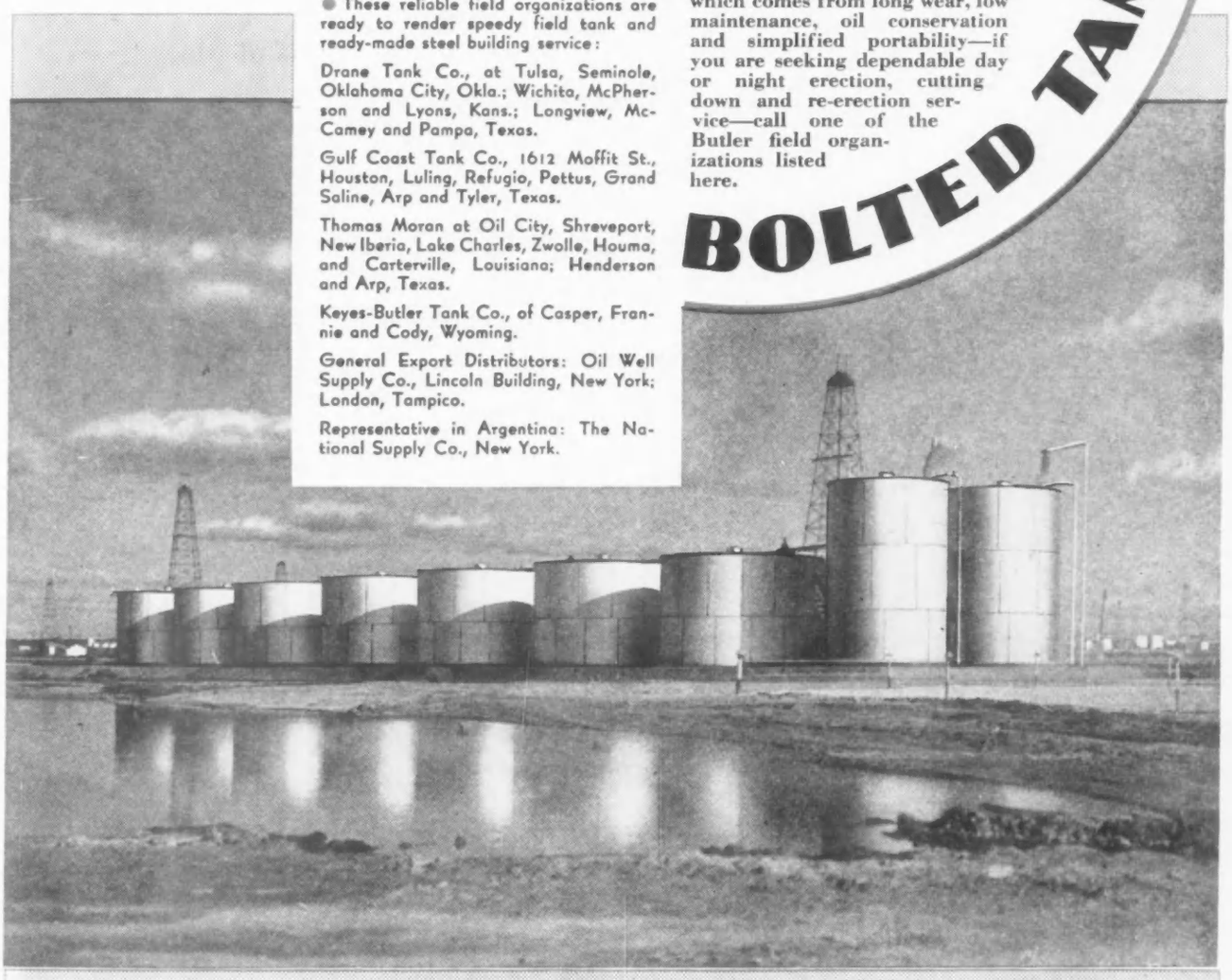

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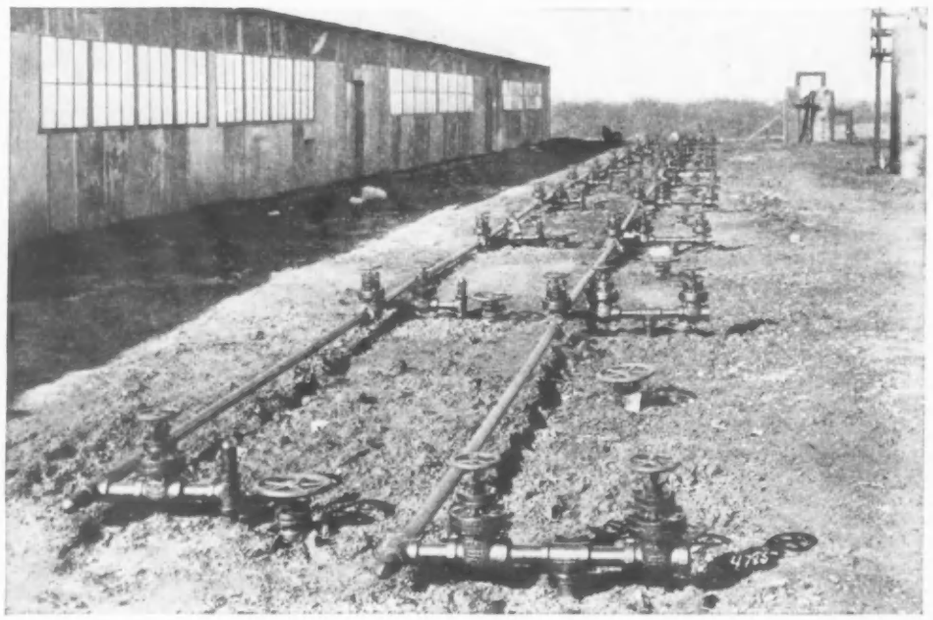

An installation of Darling Gate Valves at the Magnolia Petroleum Company's St. Louis, Oklahoma Plant. These valves are used on their discharge lines, air lift installations and subject to pressure varying from 350 to 1000 lbs. with temperature from 150° to 300° F.

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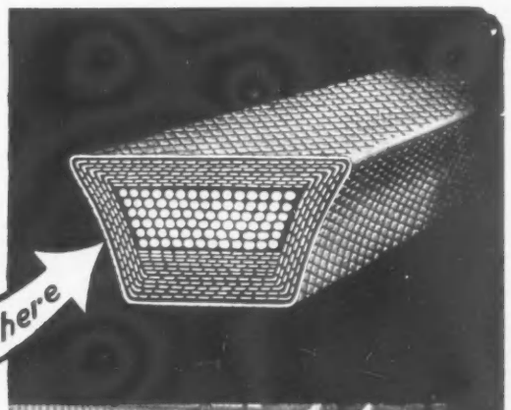

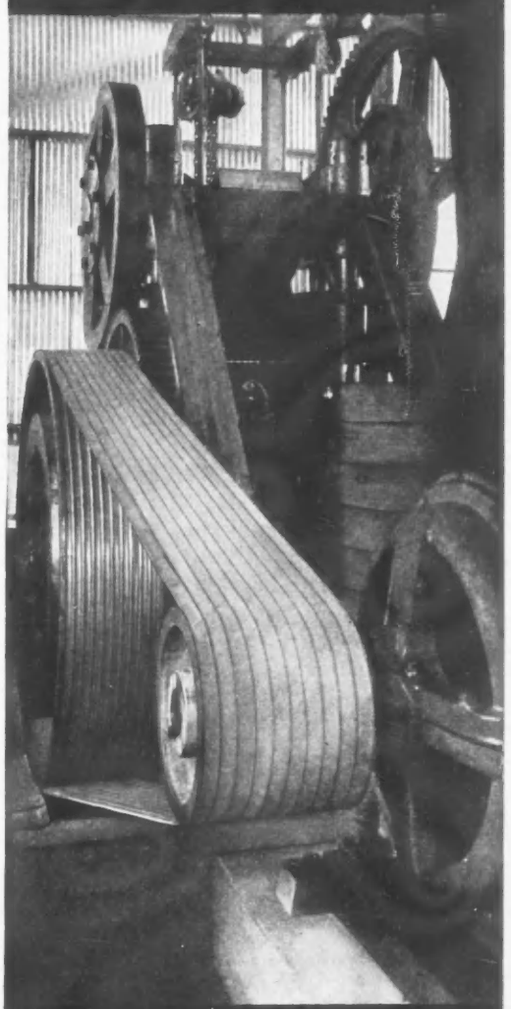

Watch ANY V-Belt in action and here is what you will see—

The top of the belt, as it bends around the pulley, is under tension and grows NARROWER. The bottom is under compression and grows WIDER, the sides of the belt BULGE OUT.

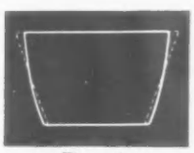

Figure 1.

A straight-sided V-Belt is therefore forced to assume, in the sheave groove, the shape shown by dotted lines in figure 1. TWO losses result:

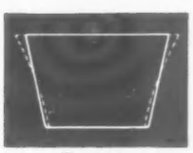

Figure 2.

(1) The bulging causes UNEVEN wear on the sides of the belt--SHORTER LIFE! (2) The full side of the belt does not uniformly grip the pulley—lower transmission efficiency.

Contrast with this the belt built with the CONCAVE side (Patented by the Gates Rubber Company), the Gates Vulco Rope.

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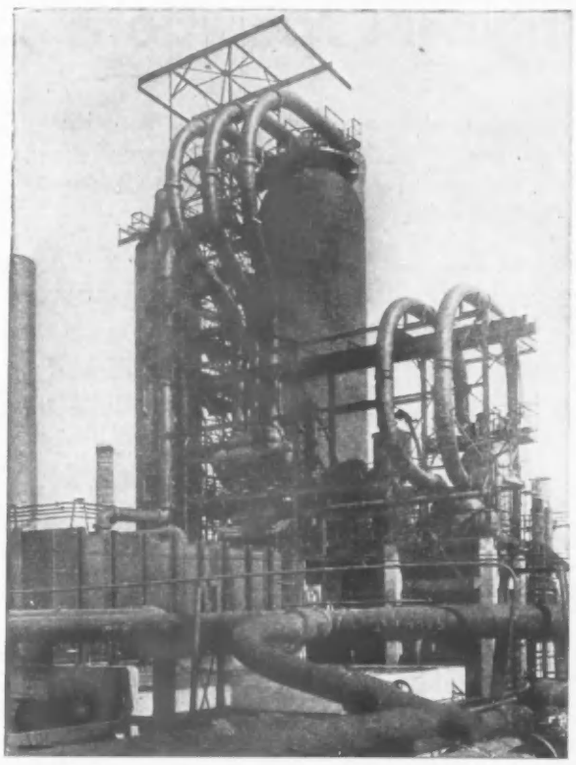

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July 24, 1931
Vol. 62, No. 6

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Editor

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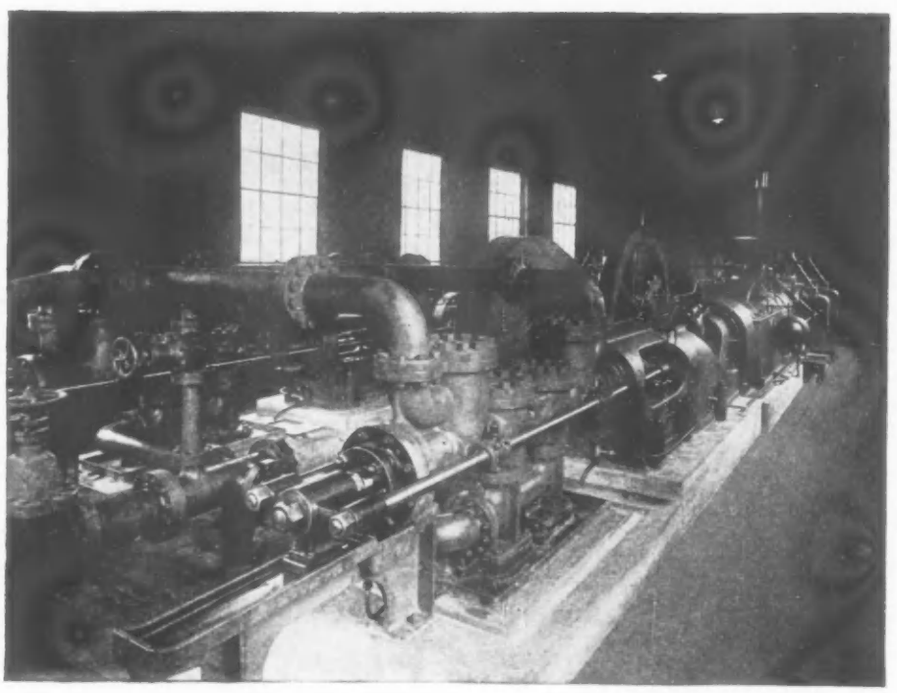

A TRANSIT Gas Engine driven, Texas type, Pipe Line Pump, operated by one of the largest Pipe Line Companies in Pennsylvania.

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THE OIL WEEKLY

VOLUME 62, NO. 6 JULY 24, 1931

Gasoline Stocks Reduced to 28½ Day's Supply

By H. J. STRUTH
Staff Economist

OUT of the severe depression in all branches of the petroleum industry, with the price of crude and its products down to the lowest point in many years, comes the sudden realization that gasoline stocks at refineries now only constitute a supply sufficient for 28½ days of consumption. This is a rather startling fact, when it is considered that the Bureau of Mines statement for May stated that the supply of gasoline at refineries on May 31, was equal to 37 days' supply, compared with 40 days' supply on the same date of the preceding year. On that date gasoline stocks aggregated 47,948,000 barrels. Subsequent results of rather heavy demand for gasoline and continued curtailment of refinery runs below the rate indicated as normal to supply current requirements have brought about a material change in the status of gasoline stocks.

On July 11, figures reported to the American Petroleum Institute showed that refinery stocks of reporting companies aggregated 38,342,000 barrels. On a Bureau of Mines basis, this meant that total gasoline stocks at all refineries in the United States must have amounted to about 39,032,000 barrels. A check of current gasoline consumption for both domestic and foreign use reveals that the daily average consumption is approximately 1,370,000 barrels. By dividing the latter figure into indicated gasoline stocks of 39,032,000 barrels, it is seen that the number of days' supply of this product has declined to but 28½. Reference to the Bureau of Mines report for June, 1930, shows that on June 30, refinery stocks of gasoline amounted to a supply of 35 days.

This is perhaps the most constructive development that has been seen in the industry for quite a few years. It will be remembered that during the World War period, in the summer of 1918, the government warned against waste of gasoline and proclaimed gasolineless Sundays for the reason that the supply of this product had declined to a point where stocks represented a supply only sufficient to last 22 days. Of course, it is realized also that the supply of crude at that time was not as large as it is now, nor was it possible to obtain as high a recovery of gasoline from crude oil during the war period. Nevertheless, the facts are significant. At that time gasoline was selling at retail for from 30 to 35 cents per gallon! Today, under severe economic depression, the industry has been having difficulty obtaining one-third of that price for gasoline. Yet, the supply of gasoline on hand today is actually only 6½ days more than there was in storage under the regime of war and gasolineless Sundays! This is something to think about.

It has been pointed out before by THE OIL WEEKLY that the industry is not really in bad shape statistically. Gasoline stocks are now more than 11,193,000 barrels lower than they were a year ago and crude oil inventories have shown a decline under last year of more than 40,000,000 barrels. It seems to be the unanimous opinion of the large producing and purchasing companies that the only thing wrong with the industry's economics now is East Texas. Until some drastic action is taken to prevent East Texas oil from flooding the nation's markets with cheap crude and cut-price gasoline the petroleum industry will be forced to accept starvation prices for crude and products which have continued to enjoy an unusually high rate of consumption. The fact that gasoline stocks are at the lowest comparative level since the war should go a long way to correct the instability of the wholesale and retail price structure.

It is difficult to be pessimistic over the oil industry's outlook when the supply statistics show such a favorable situation. It is also difficult to see why any group of men can continue to violate the economic law of supply and demand when there are such favorable factors on the horizon. Under the conditions outlined it is logical to believe that one bold stroke in the direction of forced curtailment of East Texas crude oil production could quickly restore equilibrium where chaos reigned before. Higher crude and gasoline prices could be realized if East Texas production is immediately curtailed; the supply statistics show this.

Enforced proration or curtailment in production may not be the only answer. The refusal of the majority of producers to sell at present prices might get the same result. A workable association of producers, pooling their production for sale might accomplish this.

THE WEEK'S NEWS

President Without Power To Declare Embargo on Oil

Washington.—Declaration of an immediate temporary embrago on the importation of foreign crude and refined petroleum products was asked of President Hoover July 17 by the Independent Petroleum Association of Texas, in a telegram seeking relief of this nature "pending enactment of a protective tariff by the next session of congress."

A large number of wells have been abandoned and further abandonment is to be expected, the president was told, by operators who are facing bankruptcy with oil selling at from six to 25 cents per barrel, and there is no opportunity for the American producer to better his situation so long as oil and gasoline come in free of duty.

The independent operators have given notice that they will make another fight at the next session of congress for a tariff on oil and its products. In the meantime, however, it is pointed out, the importing companies continue to bring in large amounts from South America, crude imports for the first five months of this year being about 21,500,000 barrels and receipts of refined products about 17,000,000 barrels. While these amounts are large, it is admitted they show a slight reduction from the 1930 totals for the same period.

The telegram sent the president by the executive committee of the association has been sent by the White House to the Interior Department, where a large number of like protests have been received in recent weeks. There is no legislation under which the president could lay an embargo, as requested, unless under administrative provisions of the tariff act dealing with unfair competition. Legislation to give the president embargo powers, as well as declaring an embargo against oil imports, was offered at the last session but failed of passage.

Austin, Texas.—Among the proposed bills designed to correct the evils of the production of oil in Texas is one proposed by Senator Charles Gainer, which would create the Texas State Oil and Gas Commission, and would give that commission the right to fix the market price of crude and natural gas. It would also require a certificate of necessity and public convenience to drill wells in proven territory. This proposed commission of three members would have authority to hold hearings and investigations into the operation of oil activities.

Mid-Year Review and East Texas Number

Next Week The Oil Weekly will present its regular midyear review of field operations with a statistical forecast for the balance of the year. In view of the important economic position of East Texas particular attention will be shown this district with a number of special articles and maps including a special insert map showing the entire Sabine Uplift and the East Texas Basin.

Bill Proposes New Commission In Texas With Added Powers

Austin, Texas.—Creation of the Conservation Commission of Texas consisting of three members serving six years at $7500 per year, and transfer of all jurisdiction formerly held over matters pertaining to the conservation of natural resources from the Railroad Commission of Texas to this proposed new conservation commission, are proposed in a bill introduced by Representatives Petsch, A. P. Johnson and Wagstaff, and to be introduced in the senate by Walter Woodward, administration leader. An emergency clause, part of the bill, cites overwork of the railroad commission, need for improvement in the enforceability of the conservation laws, and conservation of natural resources, as the causes which make this measure imperative.

The commissioners are to be appointed by the governor, with the "advice and consent of the senate," and must be at least 30 years of age. They will take over the present duties of the railroad commission in regard to regulation of the conservation of crude oil and natural gas and the regulation of gas utilities, as well as the administration of the pipe line laws. A tax of one-fourth cent per barrel of crude oil is levied to support the administration of the new law.

A section prohibits the "production, storage or transportation of crude petroleum oil or of natural gas, in such manner, in such amount, or under such conditions as to constitute waste."

Waste is defined as physical only, and the bill prohibits unnecessary waste of gas, gas energy or water drive of any pool, but does not require the unitization of the separately owned properties of any pool. Surface or underground waste which will reduce the ultimate recovery of any pool is also forbidden. Wells producing gas in commercial quantities must be closed within 10 days after they are brought in, or the gas sold or used for repressuring some oil sand.

The new commission is empowered to promulgate rules for the prevention of waste in any pool, adjusting or prorating the production among the operators, the production distributed ratably among the producers in the pool. Oil produced in excess of such an established allowable may not be removed by a third party, and the commission may enjoin such removal.

Suits against the commission shall be filed in the Travis County courts, and are given precedence on the docket over other cases; such suits must be set for trial by the court within 10 days after they are filed. These cases also take precedence in the appellate courts and the supreme court.

All orders of the commission are presumed valid until proved invalid, and must be obeyed. The commission is granted the right of injunction to enforce such orders, pending litigation. Injunctions or restraining orders may not be granted against the commission until after notice and hearing that shows the order invalid and damaging to the complainant. However, parties obtaining such injunction must make bond to indemnify affected parties, who may later, after the validity of the order has been established, sue for damages on this bond, such suits to be filed

(*Continued on page* 43)

Laboratory Data Regarding Repressuring and Total Recovery

By W. F. CLOUD
Associate Professor of Petroleum Engineering, University of Oklahoma

THE experimental data submitted here, having been obtained by using miniature apparatus and equipment, is therefore only relatively comparable to oil well and field conditions. Nevertheless, certain presupposed principles and fundamental facts are illustrated and substantiated. This and similar information should be pertinent when attacking more complete recovery problems on the average oil field property. Also, laboratory experiments and recovery data will do much toward clarifying the mind of the student engineer as to what to expect in the field.

Comparable percentages of recovery, in both consolidated and unconsolidated sands and sandstones using air and gas as the re-pressuring agent, have been recorded, as is also the total recovery by "flooding" with distilled water and sodium bicarbonate solution after recovery by air or gas drive had ceased.

Repressuring Unconsolidated Sands

The apparatus used in re-pressuring unconsolidated sands is shown in Figure 1. The tube is four inches in diameter and approximately three feet long, having pipe collars on the ends, into which bushings were screwed to reduce the input and discharge ends ("a" and "b") to receive three-eighths-inch pipe and connections. Needle valves were installed at "c" and "f". A one-quarter-inch by four-inch perforated nipple, covered with 100-mesh monel cloth and 150-mesh copper wire screen, was screwed into the inside of the three-eighths-inch nipple extending through the bushing, as is shown at "d". Gages number 1 and 2 recorded input and discharge pressures, respectively.

After determining the volume of the tube in cubic centimeters at 70° F., it was packed before each experiment with 80-100 mesh Simpson (Wilcox) sand, the density of which is 2.649. Equivalent weights of sand were used each time the tube was packed, and the resulting porosity of each pack was calculated before charging the sand with oil.

In determining the per cent of porosity, the weight of the sand packed in the tube was divided by its density to determine the volume of the sand grains. By subtracting this result from the total volume of the tube, the cubic centimeters of pore space are ascertained. Then by dividing the cubic centimeters of pore space by the volume of the tube minus the displaced volume of the perforated nipple (well), the per cent of porosity is derived.

The crude oil used in these experiments came from the Oklahoma City Oil field. The natural gas used contains less than one-fourth gallon of gasoline per thousand cubic feet, and it is practically devoid of moisture.

In experiments marked "A", "B", and "C" in the summary report, both the initial and the back pressure were maintained high for the first thirty minutes of each flow. After that, various back-pressures were tried, as well as flow at various input pressures with the discharge valve

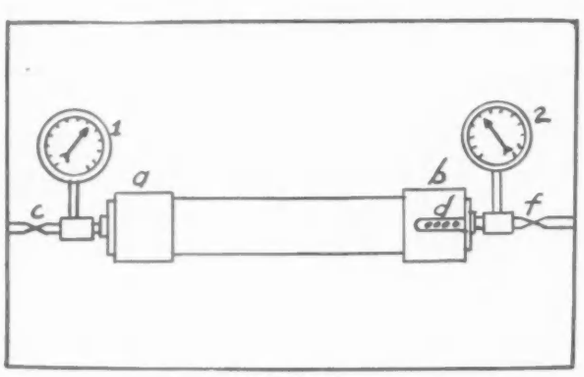


FIGURE 1

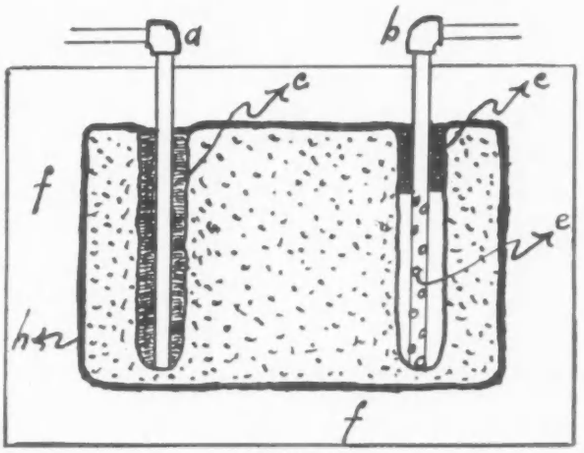


FIGURE 2

a—Input well *b—Recovery well*
c—Lead wool *e—Perforated nipple*
f—Concrete *h—Tar coating*

wide open or pinched. All pressures and rates of flow were timed in periods, and these procedures were duplicated in each subsequent experiment. In experiments "D" and "E" high pressures were applied and varied only after the first hour.

Interpretation of Results

The experiments seem to substantiate the partially-accepted conclusion that air is a better repressuring medium than gas. This is concluded after comparing "A" with "B" and also "D" with "E". However, part of the low percentage of recovery in part "B" is due to slightly lower porosity, even though the per cent of saturation is higher than in "A" and "C". The per cent of recovery in "C" is higher and the oil was recovered faster than in "A" because the porosity is higher although the per cent of saturation is about the same.

Air will more completely reduce the gravity of crude oil, even though the gas is dry. This, of course, is more severe at high pressures because there is a greater tendency to channel or "blow through."

Gas is almost as effective as air for repressuring if high back pressures are maintained. Since gas is the more volatile of the two, high back-pressures tend to retard the velocity at which it is capable of expanding, thus there is less "blowing through", and the gas does more effective work.

Since gas is the more highly and readily soluble of the two in crude oil, the gas in solution should increase the rate of flow because of reduced viscosity. However, the experiments do not substantiate this conclusion. This is probably due to the fact that the Jamin action of gas bubbles is greater than that of air bubbles.

Low pressures are better for repressuring purposes. This is shown by comparing parts "D" and "E" with "A", "B", and "C". Also, gas more nearly approaches the efficiency of air when low pressures are applied, as it is then less volatile.

Repressuring and Flooding Solid Sandstones

A block of dry Permian sandstone was sawed to approximately 12 inches by 11 inches by eight inches in size. Two 1½-inch holes were drilled in this block about eight inches apart to a depth within one inch of the bottom. Two one-quarter inch nipples, one of them perforated, were placed in these holes and tamped securely with lead wool. The block was then painted with two coats of hot tar to exclude the moisture of the cement mix that was placed around the block to reinforce it. Also, the tar being practically impervious to the oil, would prevent its being absorbed into the cement. The cement covered the block on all sides to a thickness of three inches, (see Figure 2). After the cement had hardened for three days, saturation of the block with crude oil was begun. Oil of 40° A. P. I. was used.

After saturation the input "well" was connected to an air compressor, and repressuring was begun. Pressures from one to 10 pounds were applied over a period of three hours. The crude was recovered in graduated cylinders at the "flowing well". The results were, as follows:

Volume of sandstone block, 18336.8 cc.

Volume of oil required to saturate, 5330 cc.

Effective porosity of the block, 28.9 per cent.

Per cent recovered at 1 to 2½ pounds pressure, 38.0 per cent.

Per cent recovered later at 2½ to 5 pounds pressure, 6.0 per cent.

Per cent recovered finally at 5 to 10 pounds pressure, 3.0 per cent.

Total recovery, 47.0 per cent.

A similar block of the same sandstone, but containing only 3739 cc. volume, was treated in the same manner; but the "wells" were only five inches apart. The results were as follows:

Volume of sandstone block, 3739 cc.

Volume of oil required to saturate, 1211 cc.

Effective porosity of the block, 32.3 per cent.

Per cent recovered at 1 to 2½ pounds pressure, 41.3 per cent.

Per cent recovered later at 2½ to 5 pounds pressure, 9.3 per cent.

Per cent recovered finally at 5 to 10 pounds pressure, 6.4 per cent.

Total recovery, 57.00 per cent.

After this 57 per cent of the oil had been recovered by air drive, a half-inch pipe 10 feet long, having a funnel attached at the top, was connected to the input "well." The sandstone was then "flooded" for two hours, using distilled water. Only 15 additional cubic centimeters of oil was recovered by this flooding medium. Two per cent sodium bicarbonate solution was then substituted for the distilled water in the "flooding" process. After two hours more, 34 additional cubic centimeters of crude were recovered. The carbonate solution was then forced through the sandstone under three to five pounds air pressure. Very little more recovery was obtained by this combination of drive. This

(*Continued on page 43*)

SUMMARY OF DATA

	A	B	C	D	E	REMARKS
Volume of tube	3445cc.	.....	.....	.....	.....	
Grams of sand used	6217	6240	6082	6240	6233	Low in "C"
Density of sand	2.649	.....	.....	.....	.....	
Parasity of each pack	31.3%	31.04%	33.36%	31.04%	31.6%	High in "C"
Amt. of crude oil charged—in	908cc.	970cc.	965cc.	1091cc.	1086cc.	
Per cent of saturation	82.7	98.0	83.9	100	99.4	Low in "A" and "C"
A.P.I. gravity of oil at time of charging } Corrected to 60° F.	36.5	.....	.....	.....	.....	
A.P.I. gravity of oil as recovered } Corrected to 60° F.	34.2°	34.7°	34.0°	34.5°	35.0°	
Reduction of A.P.I. gravity	2.3°	1.8°	2.5°	2.0°	1.5°	Dry gas was used
Initial input pressures used	200-205	200-210	200-205	40-55	40-55	
Back pressures used	170-175	170-190	165-195	12-15	12-15	
Other Pressures used	None Variable	None Initial and	None Back Pres.			After first hr. in "D" and "E"
Recovery during first 10 minutes	135cc.	78cc.	163cc.	320cc.	285cc.	
Recovery after one hour	405cc.	330cc.	432cc.	625cc.	571cc.	
Total recovery after 2-hrs., 30-min.	430cc.	417cc.	516cc.	650cc.	599cc.	
Per cent recovery	47.3	42.9	53.5	59.6	55.2	

A—Recovery by AIR at High initial pressures and various experimental back pressures.

B—Recovery by GAS at High initial pressures and various experimental back pressures.

C—Recovery by AIR at High initial pressures and various experimental back pressures.

D—Recovery by AIR at Low initial pressure and constant back pressures, first hour.

E—Recovery by GAS at Low initial pressures and constant back pressures, first hour.

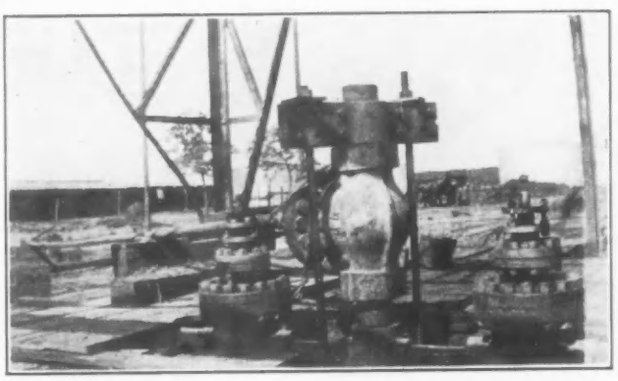
Oklahoma City Experience

Develops Equipment *and* Methods *For* Handling High Pressures

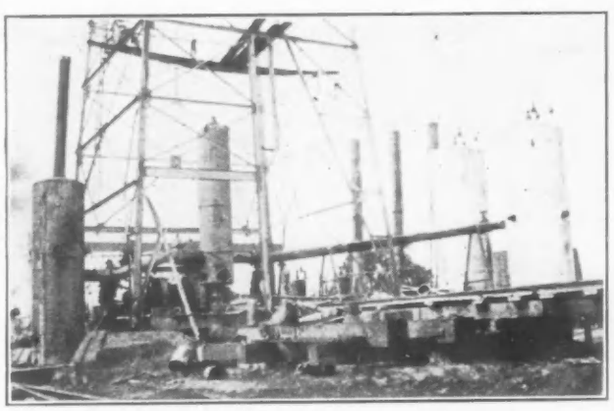
OKLAHOMA CITY operators, with more than 2½ years of experience in handling the unusual problems encountered in that pool, seem to be nearing the ultimate in the design of flow connections and safe completion methods. During the past few months wells have encountered greater thicknesses of Wilcox sand and larger volumes of gas and oil but, none has cut out connections to the extent of getting out of control. This is an accomplishment which cannot be fully appreciated without reviewing the conditions under which wells are completed and the record of wild wells which have made history for the pool.

In the early days development was several miles from the city limits and wells could be blown into the air without doing material damage. Wells in the Arbuckle lime horizon encountered only minor amounts of sand and the danger of cutting out connections was minimized. Advancement into the lower Simpson area increased this hazard because of several hundred feet of sand which was open below the last string of casing. However, it was still possible to blow all rotary mud and sand into the air and no serious damages resulted. The first real lesson as to what could be expected from the Wilcox sand came when Indian Territory Illuminating Oil Company's Mary Sudik 1, NEc SW Section 31-11n-2w, blew in unexpectedly on the morning of March 25, 1930, and was not under complete control until 7 o'clock on the evening of April 6, a rampage of more than 12 days. The well was being drilled deeper when it went out of control so it did little in the way of indicating difficulties that were to be experienced through the cutting action of sand. During the two months that followed the wild well crew had opportunity to again use the die-nipple which had been designed for and successfully used on the "Wild Mary Sudik." On May 16, Prairie Oil & Gas Company, Phillips Petroleum Company, and T. B. Slick's Sigmon 1, NWc SW Section 32-11n-2w, a lower Simpson sand producer, damaged the gates and split the casing so that it could not be closed in. Profiting by the experience of the previous month the same crew brought this well under control in four days. Sinclair Oil & Gas Company was the next to experience the fury of sand driven at high velocities when its Vencl 6, SE NW SE Section 31-11n-2w, cut out connections at noon on June 16 and was brought under control at 9:45 on the morning of June 18. The die-nipple had again proved its worth and the crew was working like a machine.

During this time development was gradually moving northwestward toward the town-lot area of Oklahoma City. C. C. Julian Oil & Royalty Company's Houser 1, NE NE NW Section 14-11n-3w, less than a half mile from the city

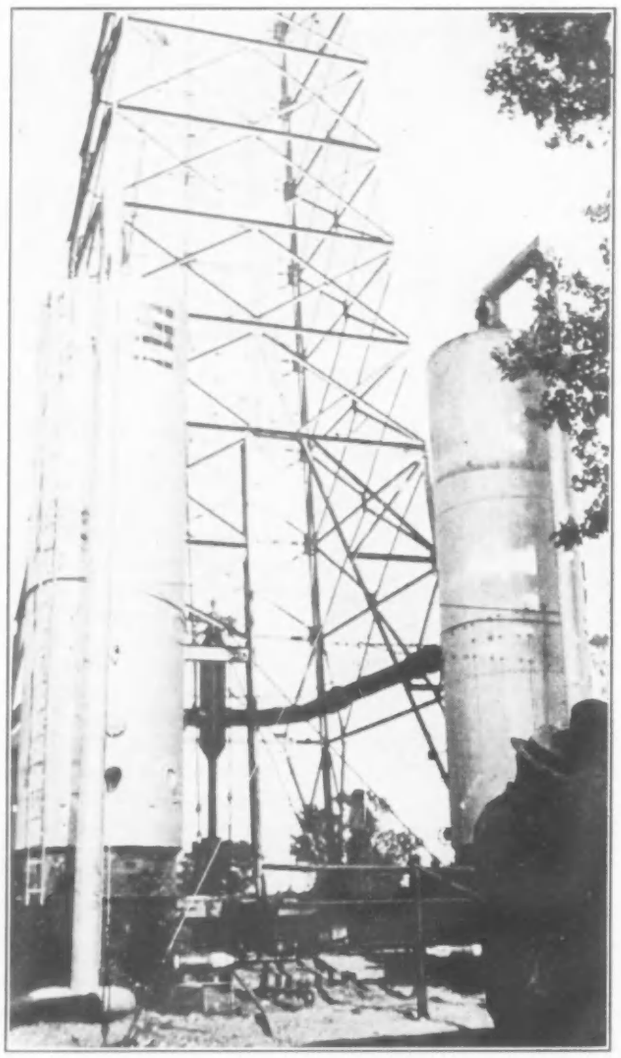


Reed Head installed on a Skelly well in the south end of the Oklahoma City field.



Early design of mud-hog method of completion. This method is the forerunner of the method now in use.

Gates cut out on Morgan Petroleum Company's Stout 1



R. A. McArthur et al's Kammerdiener 1, Section 3-11-3w. Two 7 x 22 foot American separators and B. S. & B. cushion drum were used in completing this 40,000-barrel gusher.

limits, blew wild for several hours about the middle of August. Insurance companies demanded drastic increases in their domestic rates because of the added hazard of drilling and completing wells so near the city. So far Oklahoma Cityans had gone to the field to witness wild wells. On October 30 they received their baptism in oil without going to the field. On that date Morgan Petroleum Company's Stout 1, NW SE NW Section 2-11n-3w, cut out its gates after flowing for only eight minutes. This well is located inside the city limits and within a half-mile of the thickly populated southeastern residential district. It was brought under control during the afternoon of November 2 after changing winds had blown oil and gas for several miles in all directions. After this terrifying experience at the city's edge it was evident that radical change would have to be made in the completion hook-up for wells in the town-lot area.

Reed Head First Step

The first step in solving this problem had been taken earlier in the year when Skelly Oil Company tried out the Reed head, designed by V. L. Reed, production superintendent for the company. This head proved successful and it has been used on a large number of wells throughout the field. However, it answered only one step in the problem.

The next difficulty came through the cutting out of connection beyond the control head. Skelly Oil Company experienced with a method known as the "mud hog" method conceived by J. R. McWilliams, production engineer for the company. A three by 15-foot plain separator was set directly over the well by means of flange connections with the casing. This is known as the "sand hog" because of its function as an expansion chamber and a speed arrester for sand traveling at high velocities. It was equipped with a 6⅝-inch lead filled bull plug which acted as a safety plug because of its having less strength than the separator and blowing out in case of pressures in excess of the separator strength. This method was further developed by engineers of National Tank Company and was used extensively.

In June, 1930, Indian Territory Illuminating Oil Company first used the "wash in" method which had been successfully used in the Gulf Coast for many years. An extra string of casing or "wash pipe" is run into the hole as soon as the desired thickness of sand has been drilled. Clear water is pumped into the hole and rotary mud and sand cutting washed out through the annular space between the "wash string" and the oil string. When the exchange is completed the hole is bailed until rock pressure overcomes that exerted on the sand by the column of water at which time the well starts flowing. This method, although generally adopted by Indian Territory Illuminating Oil Com-

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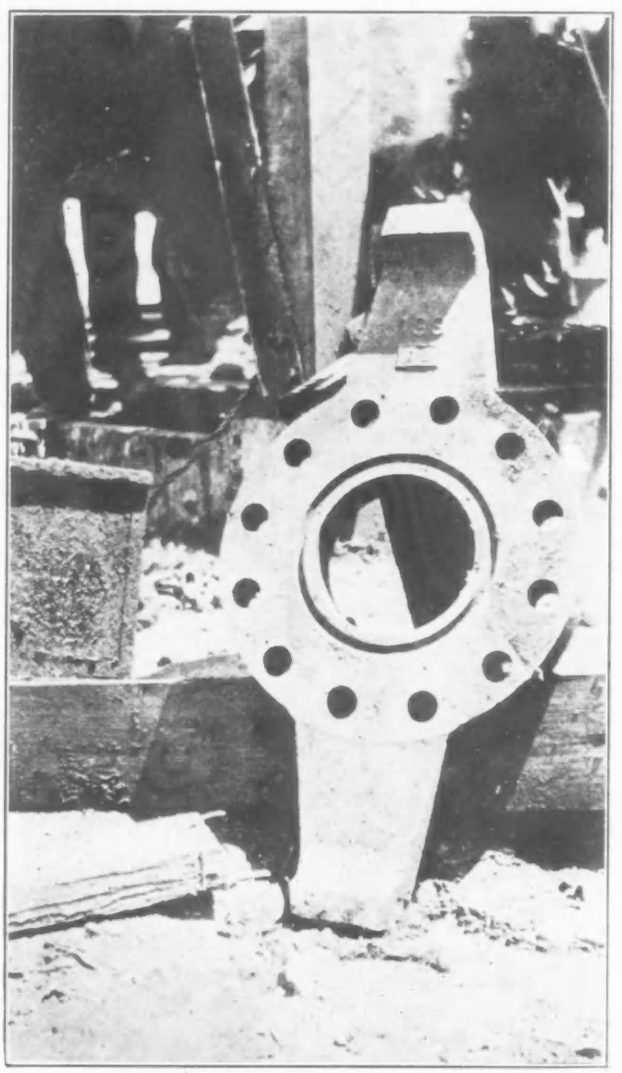


American Tie-down Flange.

Construction *and* Application *of* Simple Manometers

By J. H. POUND
Professor of Mechanical Engineering, Rice Institute, Houston, Texas

ALTHOUGH most gas and petroleum engineers have some knowledge of the utility of the liquid-filled **U** tube for indicating small pressures or for measuring pressure differences in connection with orifice meters, Pitot tubes, or Venturi meters, this instrument's wide field of application and its various forms are seldom so thorougly appreciated as to make a study of these points unprofitable or dull.

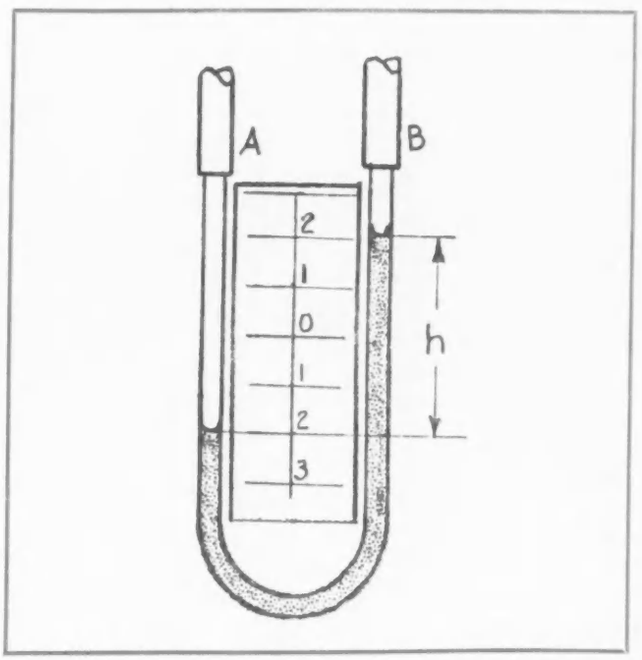
The popularity of this device is due primarily to its simplicity. This characteristic results in the advantages of cheapness, ease of improvisation, portability, and accuracy, both original and maintained.

Perhaps the most valuable of these characteristics is its accuracy. Like the camera, whose ability to make a six-inch trout look as large as a tarpon is well known, the manometer can be made to give misleading evidence; but since the manometer seldom goes fishing or golfing, its reputation for truthfulness remains deservedly high. Since the simple **U** tube has no springs or bent tubes to lose their elasticity and no gears or pivots to wear, its readings usually retain their original accuracy with age. Perhaps the density of old liquid may be questioned, but that quantity is usually easily determined by hydrometer or by weighing a known volume. In case the instrument's accuracy is doubted for any reason, its calibration by comparison with another manometer filled with water or mercury is usually a relatively easy matter. Moreover, the closeness with which pressures or pressure differences may be read can be regulated in several easy ways to suit desired conditions, and when necessary the instrument can be made very sensitive.

One very obvious method of securing sensitiveness is the use of a light weight liquid, such that a small pressure difference between A and B (Figure 1) would give a large distance h. Many such liquids exist; however, many of them have the disadvantage of evaporating rapidly into gases or of mixing with other liquids. Another possible difficulty is the unwieldly length of the instrument in case a high pressure difference must be measured with a light liquid. This dilemma seems unavoidable, for we cannot by any method measure a large pressure difference and simultaneously get great accuracy and a short manometer. If we require a compact and portable instrument, high differential pressures force the use of a heavy liquid and necessarily cause a loss in accuracy to some extent.

Even when using heavy liquids, this limitation on convenient length also imposes a maximum limit on the pressure difference which can be measured. When using mercury, the heaviest liquid commonly available, this upper limit is about 15 pounds per square inch, a pressure which makes the manometer more than 31 inches long. The practice of using several **U** tubes in series, with each one separated from the next by air pockets, raises this pressure limit associated with a given length of tube; but the apparatus is still cumbersome to transport and to use.

Fortunately for the engineer, while working below this maximum pressure limit he has available for manometer use a large variety of common liquids of various densities, and from these he can usually select one which will measure his pressure differences with good accuracy and without too long tubes. In making such a selection, the following table may prove useful. Most of these liquids can be procured at the nearest drug store or garage. Some of them (like alcohol) can be mixed with water to give a variety of densities.



Some of the other characteristics of manometer liquids

Properties of Manometer Liquids

Liquid—	Specific Gravity	Volatile	Soluble in Water	Equivalent to 1″ Water
Gasoline	.72 to .76	Yes	No	1.39″ to 1.32″
Wood alcohol	.796	Yes	Yes	1.25″
Lubricating oils	.88 to .94	No	No	1.128″ to 1.065″
Water	1.00	No	Yes	1.00″
Glycerine	1.26	No	Yes	0.794″
Carbon tetrachloride	1.56	Yes	No	0.64″
Ethylene bromide	2.14	No	No	0.467″
Mercury	13.6	No	No	0.0735″

aside from density require a little discussion. Color is a minor point, but it affects greatly the ease of reading the instrument, especially from a distance. Good color is possessed naturally by a few liquids such as mercury and ethylene bromide, whose properties of high density and (on exposure to air) a red color make it useful in automobile gasoline-tank gages. Many dyes are easily absorbed by the colorless liquids without affecting their densities. Eosin powder gives a good red; crystals of potassium permanganate and of iodine, though both are poisonous and somewhat dangerous to keep on hand, are easily secured and will stain water-white liquids various distinctive purple, red, or brown colors. Even certain Easter-egg dyes and cold-water paints will serve. Ordinary coffee can be substituted for water with no concern over its density; in fact, so far as the writer can discover, the expression "Coffee strong enough to float an egg" is purely imaginative. His own rather mild tipple has a specific gravity of only 1.003.

Another item affecting the choice of a liquid is its cost. Mercury prices fluctuate considerably, but the 'technical' grade costs now about $2.60 a pound, and this weight occupies only about two cubic inches or about one fluid ounce. Gasoline gage fluid costs about 50 cents a liquid ounce when bought retail at automobile supply houses. Glycerine costs about 30 cents a pint and carbon tetrachloride about 50 cents a pint. The last named substance can of course be robbed from the nearest small fire-extinguisher,—if one does not care how he treats his extinguishers. It is quite volatile, however.

Volatility is evidently a disadvantage. So, sometimes, is the ability of the manometer liquid to mix with other liquids. For example, in measuring the pressure drop through a Venturi meter carrying water, mercury is commonly used, with water filling the passages solidly from the mercury surfaces back to the meter tube. Many fluids could not be used under such conditions. In addition to the various liquids soluble in water, unavailable liquids would be those lighter than water, such as oils. Even in a very clean tube carefully filled with water above each oil surface, the writer's experience is that any pulsation in pressure in a small tube will cause a separation of the light liquid into alternate drops of water and oil.

The accuracy of ordinary engineering measurements is such that no consideration need be given to the effect of capillary attraction or of density changes in the liquid due to temperature variations or the liquid's compressability at high pressures.

The deteriorating effect of some liquids on other materials must not be forgotten. Glycerine and oils shorten the life of rubber tubing; and through the danger of mercury absorbing gold and spoiling jewelry is pretty well known, its absorptive effect on brass is apparently not so generally appreciated. Never make the writer's mistake of trying to improvise out of brass boiler gage-glass cocks a mercury-filled manometer capable of standing high pressures,—this is a fine way to spoil a gage-glass set! Iron and steel are not attracted by mercury but are rusted badly by alcohol and iodine (tincture of iodine). Many common acids would be useful manometer liquids if not so dangerous to handle.

Careful selection of the liquid is a long step toward accuracy, but it is not the only one which may be taken. Another common method is to incline one leg of the tube, as shown in Figure 2, at an angle perhaps as low as 5°, thus spreading the scale over a much greater length than in Figure 1. The higher pressure must of course be brought into the upper end of the inclined leg of the tube, and before using the instrument, it must be levelled up to secure the proper angle of slope for this inclined leg. Also, either the scale should be shifted along the tube or the quantity of fluid in it should be adjusted so that the liquid reads zero on the scale when both ends of the tube are open to the atmosphere. The zero mark will of course be at the upper end of the inclined tube.

Such a scale arrangement has the big advantage of being direct reading, thus avoiding the risk of errors associated with two readings which have to be added, perhaps mentally, as in Figure 1. It is true that by carefully adjusting the amount of liquid in the simple U tube so as to make both columns read zero with the ends of the tube open to the atmosphere, the observer need only double the indication of one column; but any loss or gain by the liquid spoils this situation. Moreover, adjusting the liquid to read exactly zero is not always easy in the field. Incidentally, the writer believes that when filling simple manometers, the time spent in securing a pretty good funnel or medicine dropper is time well spent, for without such equipment the

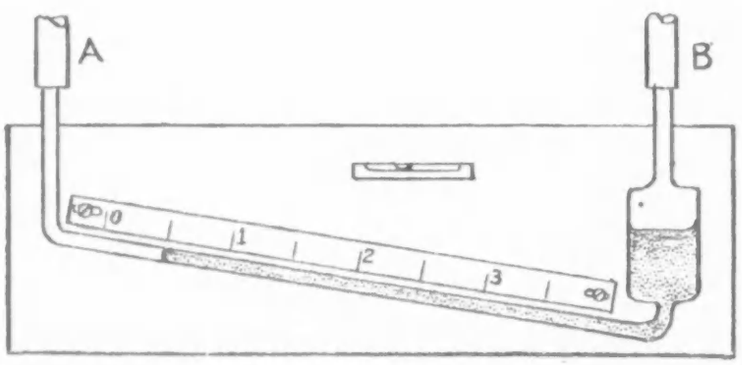


Figure 2

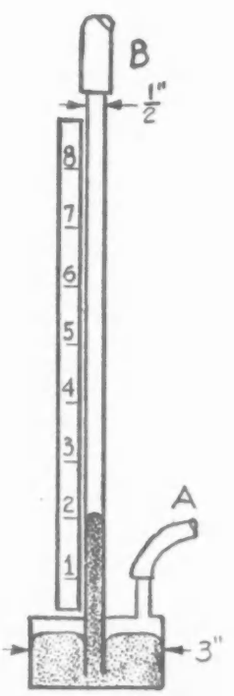


Figure 3

expenditure for lost liquid, delays, spoiled clothing, and highly colored language may be considerable. Most people cannot meet the chemist's boasted ability of pouring neatly from a barrel into a test tube.

The vertical leg of the inclined tube manometer is usually much larger in diameter than the tube itself. This provision also is aimed at improved accuracy of the instrument. If the same diameter of tube were used throughout, a real pressure difference of 2″ of liquid would result in a rise of 1″ in the vertical leg and a vertical drop of only 1″ in the inclined leg, giving a point on the scale to be marked 2″. But with a large diameter reservoir in use, a 2″ real pressure differential causes only a small rise in the reservoir level and a much larger drop than 1″ in the inclined tube, allowing a much longer piece of inclined tube to be graduated to show a 2″ change. The scale along the inclined tube can be easily prepared or checked by attaching this manometer and a common U tube to a source of vacuum or pressure. Often a man's lungs will be a sufficiently powerful pump for this purpose, though the writer has found its capacity to be about 3″ of mercury gage pressure and about 8″ of mercury vacuum.

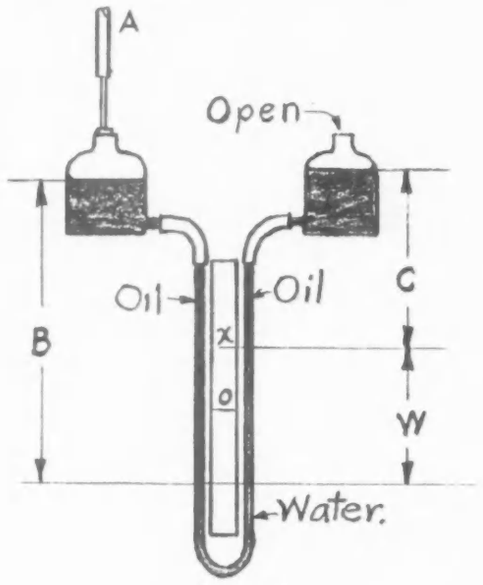


Figure 4

A light fluid is ordinarily used with the inclined tube, thus increasing its accuracy still further. These advantages of accuracy and ease of reading are responsible for the popularity of this instrument as a draft gage and in Pitot tube service.

The common U tube of Figure 1 may also have its accuracy improved by inclining the plane of the tube at a small angle to the horizontal. When used in this manner, the reading of the manometer should be multiplied by the sine of this angle to get the true vertical difference in fluid level.

Another type of manometer with a direct reading scale is the single-tube or cistern type (Figure 3) much used in connection with Venturi meters and barometers. The pressure it reads must of course be measured above the level of the liquid in the cistern, and this level will vary as the upper surface rises or falls. If a fixed scale is to be used under such circumstances, two methods can be used to provide for this change. In the mercury barometer, the variation in pressure occurs slowly and is cared for before each reading by bringing the liquid in the cistern up to a predetermined level through the movement of a plunger in the bottom of the cistern.

A second method is to graduate the fixed scale so that as the level in the cistern drops, that change is accounted for on the scale markings. For example, if the glass tube is ½″ inside diameter and the cistern is 3″ inside diameter, a rise of 1″ in the tube, measured above the final level of the liquid, causes a drop of only 0.027″ in the level of the cistern; so the 1″ markings on the scale should be really only 0.972″ apart. If both cistern and glass tube are truly cylindrical in shape, this dimension holds for all points along the scale; and if the cistern diameter is made large as compared to the tube diameter, the resulting scale can be read almost as closely as the full-size scale. The cistern is sometimes set at the side of the tube instead of concentric with it.

If this or any other type of simple manometer is used with water above the lower surface, another change in the scale may be desirable. Suppose the mercury-filled simple manometer of Figure 1 is attached to a Venturi meter by pipes completely filled with water. If the mercury surfaces in the manometer stand 1″ apart, the pressure difference being indicated is not truly 1″ of mercury, for the 1″ column of water opposite the 1″ mercury column is exerting a balancing effect which decreases the effective specific gravity of the mercury from 13.6 to 12.6. If the scale of the instrument is to read directly the true pressure difference in inches of mercury, the scale must be graduated so that the 1″ marks really are spaced $\frac{13.6}{12.6}$ or 1.08″ apart. This balancing effect of another fluid exists of course even when the connecting tubes are full of gas or vapors, but usually the densities of such substances are too small to take into account.

In a manometer of the type of Figure 3, the lengthening effect on the scale due to the water balancing the mercury is opposed by the contracting effect of the drop in mercury level in the cistern. For example, if this manometer is connected through two water-filled tubes to a meter carrying water, a true pressure difference of 1″ of mercury requires actually a column of mercury 1.08″ high on account of the balancing effect of the water; but since for the cistern and tube dimensions assumed above a real 1″ mercury column produces only a 0.972″ rise inside the glass tube, the true pressure difference of 1″ produces a movement in the tube of 1.08″ times 0.972″ or 1.05″. The direct-reading

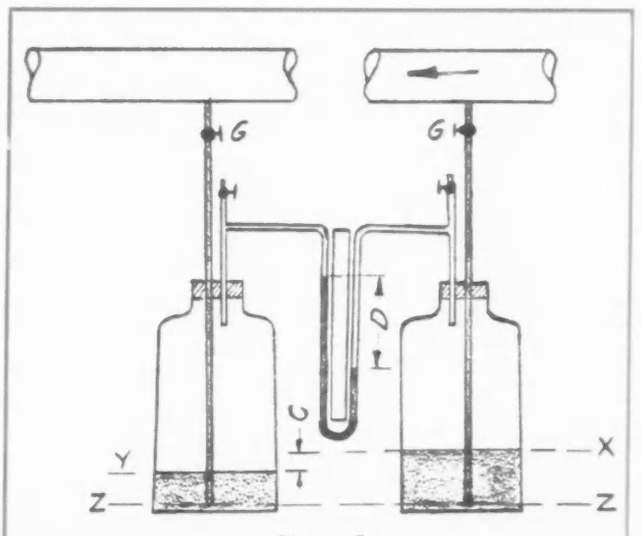


Figure 5

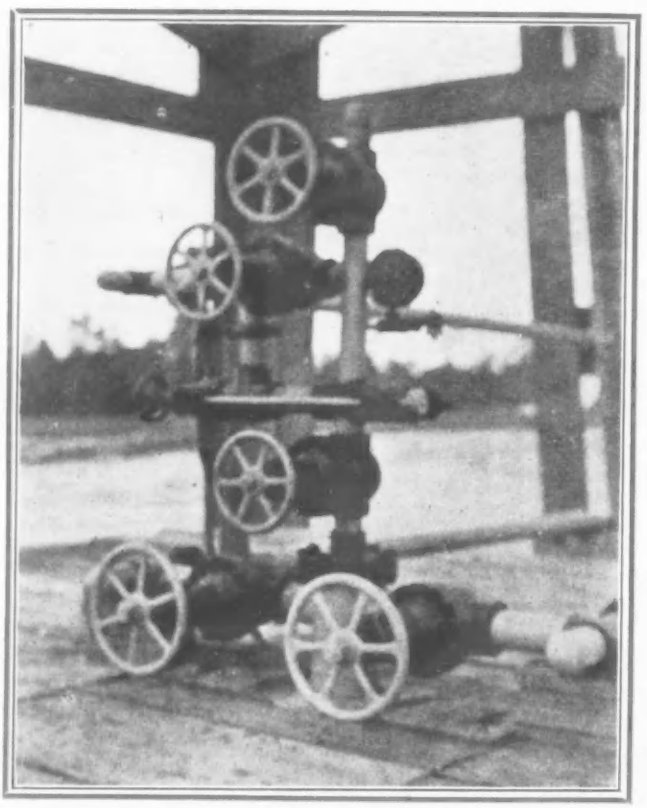
scale should therefore have its 1″ marks spaced 1.05″ apart.

Another case where a second fluid may influence the reading of the main liquid is met when a vapor in the connecting tube condenses on one or more of the surfaces of a mercury-filled manometer, necessitating a correction of the readings of the mercury alone. But under any circumstances, the true pressure difference shown by the manometer can be determined by applying the rule that the sum of the pressures existing in the right hand tube equals the sum of the pressures existing in the left hand tube, for convenience figuring all pressures above the level of the lowest liquid surface in the manometer and using the same units of pressure for all these various items.

This counter-balancing effect of two different liquids in a manometer is utilized in what is probably the easiest method of measuring very small pressure differences with accuracy. Consider the arrangement shown in Figure 4. If the dark-colored liquid is a lubricating oil with a specific gravity of 0.85, the light colored liquid is water with a specific gravity of 1.00, and distance W is 1″, this 1″ of water is partly balanced by 1″ of oil, making the real differential pressure acting on the gage only 0.15″ of water. In effect, this two-liquid manometer gives readings equivalent to those of a manometer using a single liquid of 0.15 specific gravity. Is such a liquid could be found, its use would probably be prevented by extreme volatility. The possibilities of such an equipment, using two non-miscible fluids of almost the same specific gravity, can easily be appreciated.

With such an apparatus, the change in liquid level in the two bottles must of course be considered. The scale can be graduated (either by computation or test) to automatically correct for this change, the calculations being made in this manner: applying the general rule stated two paragraphs above, the gage pressure at A plus the oil head B equals the water head W plus the oil head C, or the pressure at A equals W plus C minus B, if W, B, and C are all expressed in the same pressure units, as inches of water. The point X on the scale would then be marked with the calculated value of the pressure A, and a sufficient number of such points would give a direct-reading scale corrected for all effects peculiar to the dimensions and fluids of that one set-up. The bottles need not be of the same diameter, though they should be large as compared to the U tube diameter and should be of as unvarying diameter as possible.

Occasionally the separation of the fluid in the manometer and the liquid in the pipes being tested is very desirable. Figure 5 shows an air-trap arrangement prepared by the writer to allow the use of a water-filled manometer in measuring the pressure-drop in a water pipe. The bottles were of one-quart size and originally contained water at the same level. Opening valves G produced the conditions shown in the figure. Equating the total pressures above the datum level z-z will show that the correct pressure difference is D plus C, both heads of course being in the same units and C being quite small. Such an equipment should, however, be avoided if possible in favor of a simple manometer filled with a fluid of the proper density and insolubility characteristics, if such a one can be found. In the above example, colored carbon tetrachloride or ethylene bromide would have served fairly well, both being heavier than water and insoluble in it.



In any manometer, rapid pulsations in pressure make accurate readings difficult. In forming a **U** tube out of glass, a constriction pressed into the bottom of the U is an aid in making the instrument sluggish. Violent pressure pulsations, accidents to tubing, and careless opening of valves sometimes cause the liquid in simple **U** tubes to be blown out and lost. This trouble can be minimized by catching the liquid in a trap or pocket, perhaps made of a wide-mouthed glass bottle and two-hole cork. Or a check valve can be formed in the instrument itself by floating on the liquid a piece of soft material, like a rubber ball, of a size which will close the low pressure outlet of the manometer temporarily when the pressure difference becomes too high.

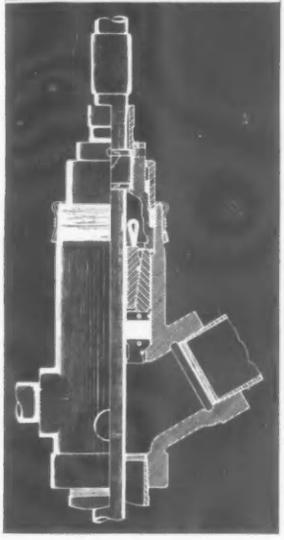
Improvising of manometers for low pressure service is usually a very simple matter. Often all that is needed is a bent piece of glass tubing or two straight glass tubes connected at the bottom by rubber tubing, the whole bound to a light board by surgeon's or electrician's adhesive tape or by soft wire or cord. Bottles with side outlets (Figure 4) such as used in portable Orsat equipments, can be secured from chemical supply houses easily; or wide-mouthed bottles, two-hole corks, and simple glass tubing can be substituted for them, though the rubber corks have a disconcerting habit of blowing out of the bottles with a loud pop if not well tied in place. Joints may be made air-tight or glass cemented to steel pipe with sealing wax, or a mixture of glycerine, litharge, and powdered cork, or plaster of paris and powdered cork, or a fairly elastic seal of half and half beeswax and parafine.

For withstanding high static pressures, the writer's home-made manometers have been rather unsuccessful. Especially where portability is required, the factory-made types really designed for high pressures have proved more satisfactory in the long run. They may be bought from stock from several instrument makers for maximum pressures of at least 1000 pounds per square inch.

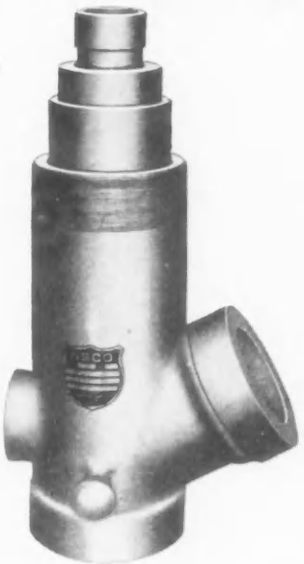
The ordinary **U** tube and cistern manometer are essentially indicating instruments only. If a permanent record is required, the device becomes much more complex. A very large amount of ingenuity has been called forth by the attempts to design satisfactory recording manometers, and a number of interesting commercial types are now upon the market. These will be discussed in future articles.

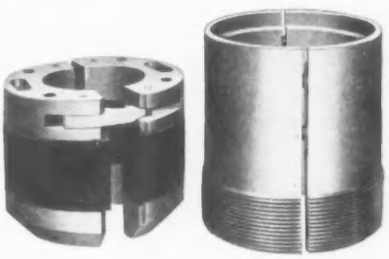
NATIONAL HIGH PRESSURE TUBING HEADS

TYPE-D



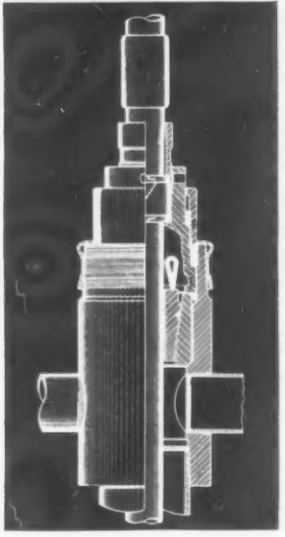
For extremely high pressures.
Auxiliary packing below slips.
Angle outlet for air or gas lift





BLOWOUT PREVENTER
Packing and Gland

TYPE-F



For high pressures.
Forged steel body.
Two four-inch outlets.

Adaptable to flowing or pumping wells » Opening full casing diameter » Tubing supported on slips in separate bowl » High pressure double bonnet packing » Emergency thread on top of body » Blowout preventers and high pressure mandrels available.

THE NATIONAL SUPPLY COMPANIES

Burbank Repressuring Meets With Varying Success

By FLOYD SWINDELL
Staff Representative

IN order that a better understanding may be had of the methods employed and results obtained in repressuring the Burbank pool, it is perhaps essential that some of the features of accumulation of oil in the Burbank sand be discussed. As far as can be determined, structural conditions have only a secondary and minor influence on the concentration of oil. The highest structural points are among the areas of smallest initial yield, both for oil and gas and the most prolific production is obtained in the northwestern part of the pool from 100 to 150 feet below the highest points on the structure. In attempting an explanation of this unusual condition Melcher states, "The production-porosity curve of the Burbank field shows evidence not only of an interesting relation between the average percentage of pore space of the producing sand and the greatest production for 24 hours of the wells, but also indicates that in the Burbank field the greatest rate of production will be in areas of largest average percentage of pore space, regardless of the relation to geologic structure. The curve also indicates that an average pore space of about 13 per cent is the lower limit for commercial production of the producing sand in the Burbank field. The close relation between average percentage of pore space and maximum production for 24 hours of the wells is largely due to the small ranges of variations in most of the other physical features, as structure, size of grain, pressure and temperature, specific gravity, and viscosity of the oil." It is most evident that a condition of this kind would materially affect the results obtained through repressure. Areas of high average percentage of porosity would take correspondingly large amounts of gas and would tend toward channeling and excessively high gas-oil ratios if back pressure was not held on output wells. In areas of low average percentage of pore space the sand would take relatively small amounts of gas and high working pressures would result. These irregular patches of sand having widely differing porosity are believed in many cases to be disconnected and a pressure medium injected into such a spot would be poorly conducted into adjacent tight spots. This may account for the fact that many of the wells start taking gas in a satisfactory manner and at reasonably low working pressures but within a short time build up high pressures and take only small amounts of gas. Along the northeastern margin of the pool the Burbank sand grades into an impervious sandy shale. Injection wells near the line of gradation might be expected to take gas satisfactorily at low pressures if porosity conditions were favorable but tend to build up pressures and take lesser amounts of gas as the area between the input wells and the sandy-shale area became filled.

Well Suited to Repressuring

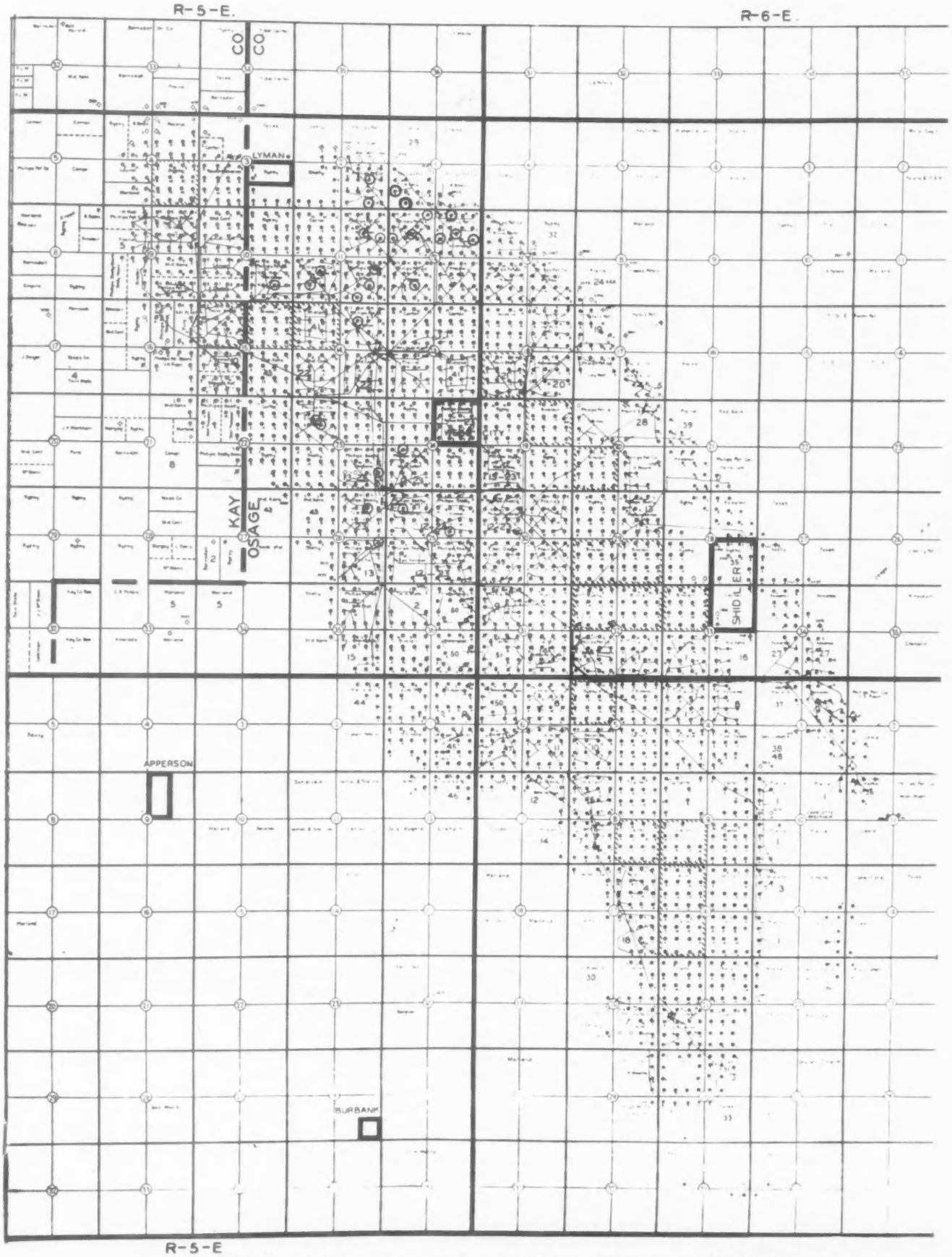
The Burbank pool appears to be an ideal spot for cooperative repressure and it is also well suited to work of this type by individuals without the usual chance of materially affecting all offset properties. All producing leases in the Osage County part of the pool are 160 acres in area and only a few in Kay County are of less area. This condition greatly facilitates repressure by individual operators and no doubt would be a decided advantage in bringing about a cooperative agreement which would place the entire pool under artificial pressure. The total productive acreage is controlled by less than 30 operators, a relatively small number as compared with other pools in the Mid-Continent. Eight companies own over 62 per cent of all acreage under which production has been found.

One feature of the Burbank sand has been a handicap to all repressure projects in the making. The sand seems to have two lithologic characteristics through vertical gradation. The present opinion holds that all of the sand was originally saturated and that the uppermost part is now largely drained of its oil content. Although several of the five-spot wells have been cored through the sand section, the question of whether or not a distinct lithologic break exists between the upper drained portion and the lower undrained portion. Several engineers are of the opinion that the upper part of the sand would take most, if not all of the gas, leaving the lower portion unaffected. Future five-spot wells should be carefully cored in search of information on this very important question.

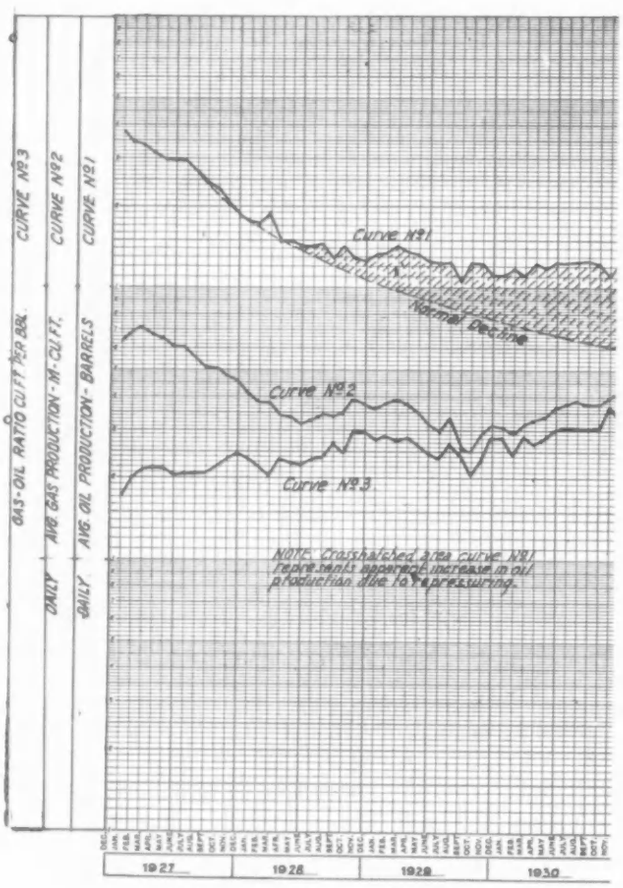
Approximately 36 properties have been repressured at one time or another and with varying degrees of success. No spectacular results have been obtained which may account for the fact that many of the projects have been either temporarily or permanently abandoned. Phillips Petroleum Company, with 17 properties under artificial pressure, is the only operator now carrying on a progressive campaign. Its records extend over a period of several years and are presented herein because of their completeness.

Phillips Petroleum Company carries on all repressure work from its DeNoya plant located near the northeast corner of Section 26-27n-5e. Two pressure lines carrying 160 and 300 pounds plant pressure run parallel to the northern part of the pool and branch out to the individual input wells. All input wells are equipped with meters for measuring input and all leases are equipped to measure gas production. Varying amounts of butane, depending upon the available supply, have been injected into most of the input wells and those wells regularly on butane each receives about an equal amount of the entire supply, which is measured at the plant. Eleven wells in the north end of the pool have been repressured principally with dry gas and six wells near the central part of the pool have received

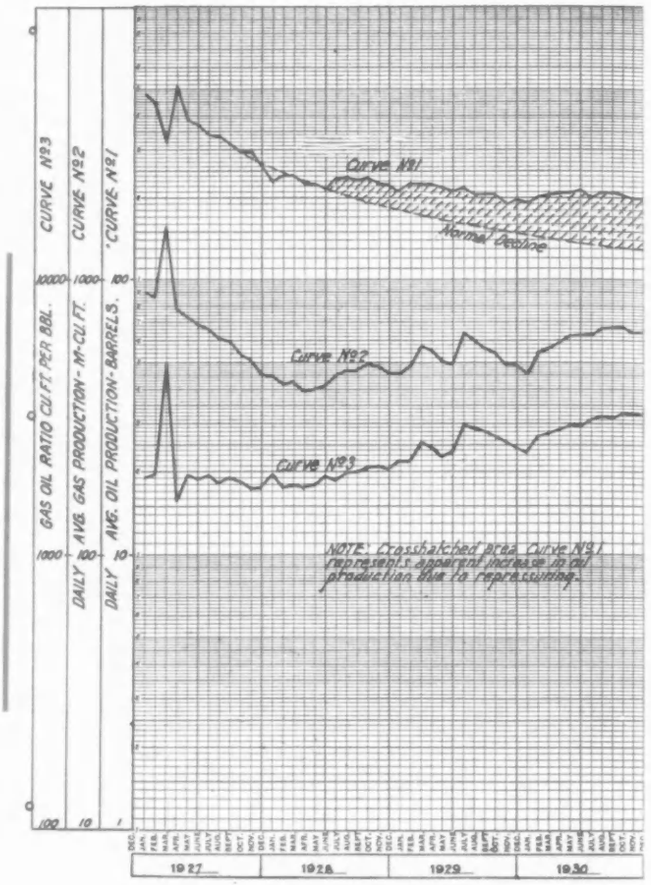
Map of the Burbank Pool in Oklahoma



Heavy circles indicate location of input wells. Shaded areas indicate properties that have been repressured at one time or another



E. Hayes, NW¼ Section 12-27-5



M. S. Norman NE¼ Section 11-27-5

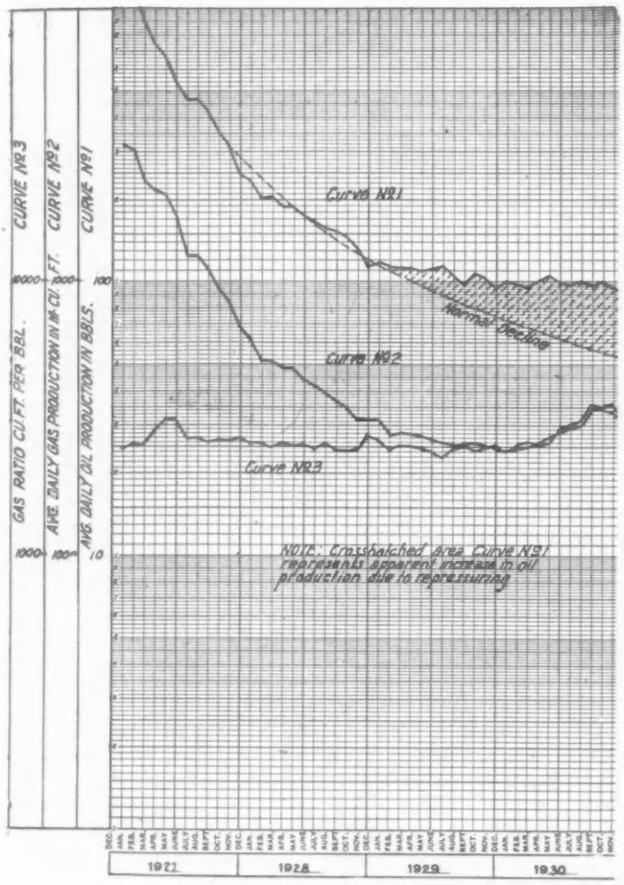
practically nothing but butane. For purposes of convenience these two groups will be discussed separately.

North End of the Pool

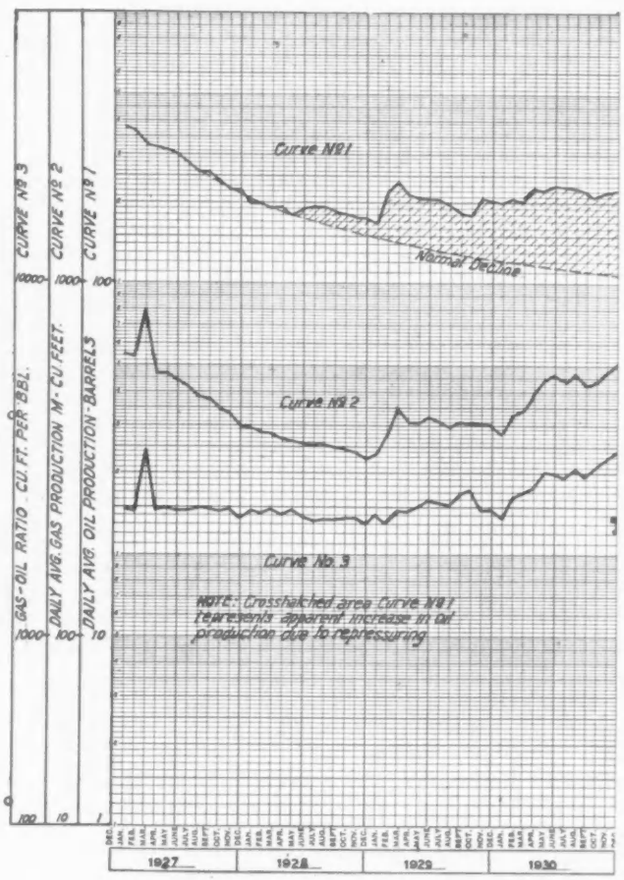
The Hayes lease, NW Section 12-27n-5e, was the first to be repressured. This lease is well located structurally but in an area where initial production was 1000 barrels or less. Well No. 5, the first input well, is an old producer reconditioned for the injection of butane, which was introduced intermittently from March 26, 1928, until February 17, 1929. The lease responded immediately with a slight increase in oil and gas production and a further slight increase in gas-oil ratio. On the latter date the well was temporarily abandoned as an input well. During the latter part of 1928, well No. 17, a five-spot location, was drilled and butane injection sarted on January 2, 1929. This was continued for nine days at which time the well started taking dry gas at the rate of about 100,000 cubic feet daily at 38 pounds working pressure. On February 25, 1930, well No. 5 was again put in condition and started taking about 120,000 cubic feet of dry gas daily at 58 pounds working pressure. Prior to this date the lease had shown slight increases above the normal expected decline. On April 18, 1930, well No. 16 was added as an input well taking 100,000 cubic feet at 100 pounds working pressure. This lease continued to take gas in a satisfactory manner throughout 1930 and at the end of the year well No. 17 was operating at 98 pounds, No. 5 at 60 pounds, and No. 16 at 110 pounds. On February 18, 1929, vacuum on all output wells was reduced from 10 inches to nine inches. A gradual reduction followed throughout 1929 and 1930 and on December 3, 1930, all vacuum had been removed and the lease, with exception of two wells, was operating at one pound back pressure. Wells Nos. 6 and 7, being close to input wells, started making excessive amounts of gas and a back pressure of 12 and 13 pounds, respectively, was carried during the early part of March, 1930. At the end of the month this was reduced to three pounds and a volume output control installed on No. 7. This lease has operated very satisfactorily since the beginning of repressuring with no appreciably great increase in the gas-oil ratio.

The Norman lease, NE Section 11-27n-5e, was the second to be repressured. This is also located in an area of 1000 barrels or less initial production. Well No. 8, a regular producer, started receiving 5000 to 15,000 gallons of butane daily in March, 1928. By January 3, 1929, the input had been increased to 90,000 gallons daily at 50 to 60 pounds pressure. During the latter part of 1928 well No. 17, a five-spot location, was drilled and butane and dry gas injected intermittently beginning February 16, 1929. At that time the well would take 90,000 cubic feet of gas at 25 pounds working pressure. This plan was continued until the beginning of the following month at which time the butane injection was discontinued and 100,000 cubic feet of dry gas put in daily. Early in 1930 this had been increased to 200,000 cubic feet at 65 pounds working pressure and at the end of the year performance was about the same. On April 28, 1930, vacuum was cut from 10 inches to nine inches on all output wells. This reduction was continued until August 14, at which time the lease was pulling five inches vacuum and no further cuts were made during the remainder of the year. This lease is also considered satisfactory.

The Lawrence lease, NE Section 12-27n-5e, was put on February 23, 1929, when well No. 17, a five-spot location,



H. Lawrence NE¼ Section 12-27-5

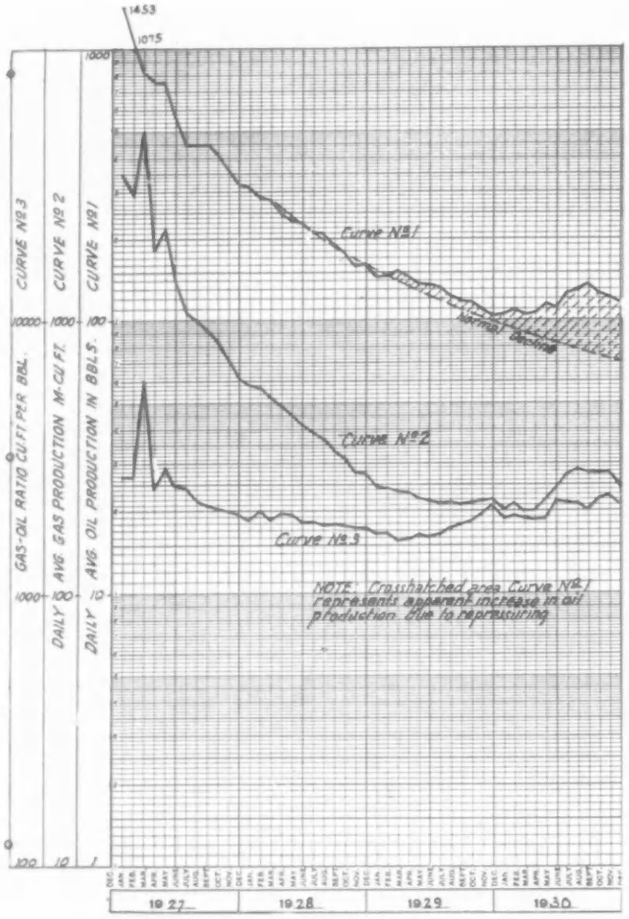

CURVE NO 3
CURVE NO 2
CURVE NO 1
GAS-OIL RATIO - CU. FT. PER BBL.
DAILY AVG. GAS PRODUCTION M - CU. FEET.
DAILY AVG. OIL PRODUCTION - BARRELS
Curve NO 1
Normal Decline
Curve NO 2
Curve No. 3
NOTE: Crosshatched area Curve NO 1 represents apparent increase in oil production due to repressuring
1927
1928
1929
1930

A. M. Matt, SE¼ Section 11-27-5

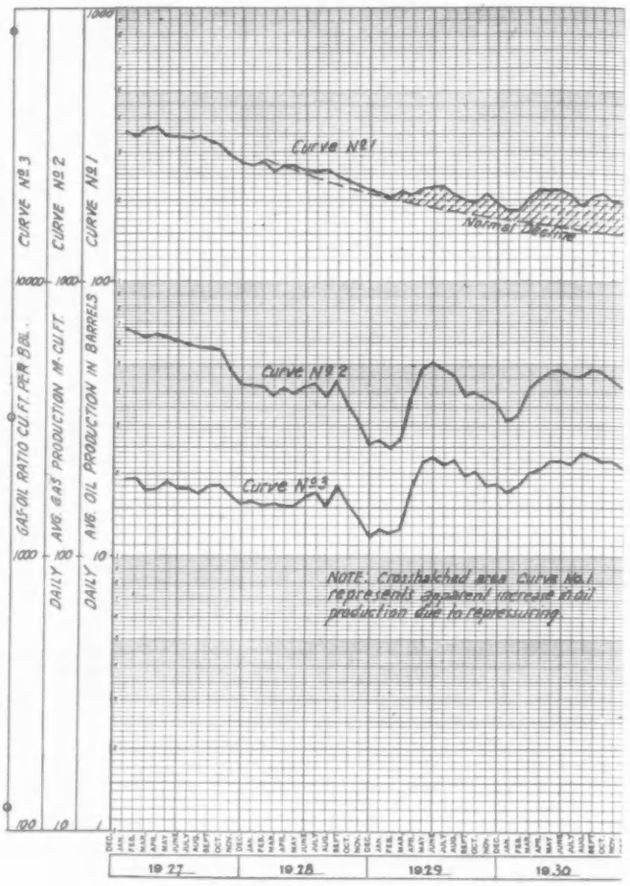
was completed. It started taking 80,000 cubic feet of dry gas at 175 pounds pressure and butane intermittently at 160 pounds. Through 1929 the pressure ranged from 175 to 250 pounds and input from 80,000 to 175,000 cubic feet daily. During January, 1930, the well was off most of the month due to severe weather and a resulting gas shortage. In April the working pressure had increased to 280 pounds and the input reached 200,000 cubic feet daily. A like condition continued throughout the year. Well No. 5 was put on pressure May 6, 1930, taking 150,000 cubic feet at 230 pounds working pressure. Two days later well No. 8 was added and the following day well No. 14. All input wells built up comparatively high pressures and took relatively small amounts of gas. Number 5 pressured up to 240 pounds in November and was taking only 40,000 cubic feet. Number 14 pressured up to 240 pounds and was taking only 10,000 to 15,000 cubic feet in June and July, whereas it had taken 80,000 cubic feet at 85 pounds in May. This lease is located near the northeast margin of the pool in an area which appears to be spotted. Attention is called to curves Nos. 2 and 3 presented herewith showing the small increase in gas production and the gas-oil ratio although high pressure was being carried on the input wells and all output wells were pulling about 10 inches vacuum.

The Matt lease, although on artificial pressure a comparatively short time, has apparently given the best results so far obtained by Phillips Petroleum Company. This property is located in an area where initial production from seven out of 16 wells was in excess of 1000 barrels. The production-porosity curve indicates that the sand is considerably more porous than on any other lease heretofore discussed. This belief is further substantiated by the relatively large amounts of gas that input wells have taken at very low pressures. Well No. 17, a five-spot location, first received butane at the beginning of January, 1929. On January 12 dry gas was introduced at the rate of 250,000 cubic feet under 46 pounds pressure. Pressure varied during the year from 22 to 46 pounds and input from 100,000 to 250,000 cubic feet. At the beginning of 1930 the pressure was raised to 46 pounds and the well took 250,000 cubic feet. From that time to the end of the year the well averaged better than 275,000 cubic feet daily and in December was taking 300,000 cubic feet at 72 pounds pressure. Wells Nos. 7 and 2 were added as input wells on March 4 and 20, 1930, respectively. The former started by taking 100,000 cubic feet at 30 pounds working pressure and within a few days was taking 250,000 cubic feet at 48 pounds. Well No. 2 showed about the same capacity at low pressures. Both pressured up to about 250 pounds in August and would take only 10,000 to 20,000 cubic feet daily, indicating that the pressure medium was confined to a small sand area, that the wells were in bad shape, or both. At the end of the year the wells had been reconditioned and No. 7 was taking 150,000 cubic feet at 30 pounds while No. 2 was taking 200,000 cubic feet at 160 pounds. Vacuum was cut from 10 to nine inches on April 24, 1930, and by June 14 all wells were operating at atmospheric pressure.

Wells Nos. 2 and 5 were added on the Hetta lease on March 6 and 22, 1929, respectively. This lease is located in an area of variable sand condition and near the northeast margin of the pool. Well No. 2 started by taking 100,000 cubic feet of dry gas at 230 pounds working pressure. For 11 days, beginning March 8, 1929, the well received an average of 20,000 gallons of butane daily. At the end of that



W. Hetta, SW¼ Section 1-27-5

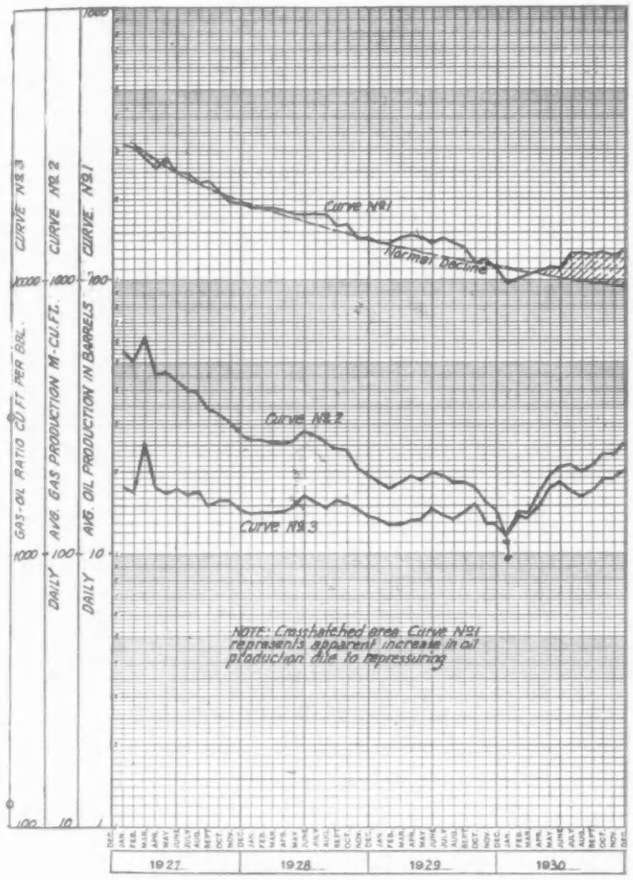


E. O. Mathews NW¼ Section 23-27-5

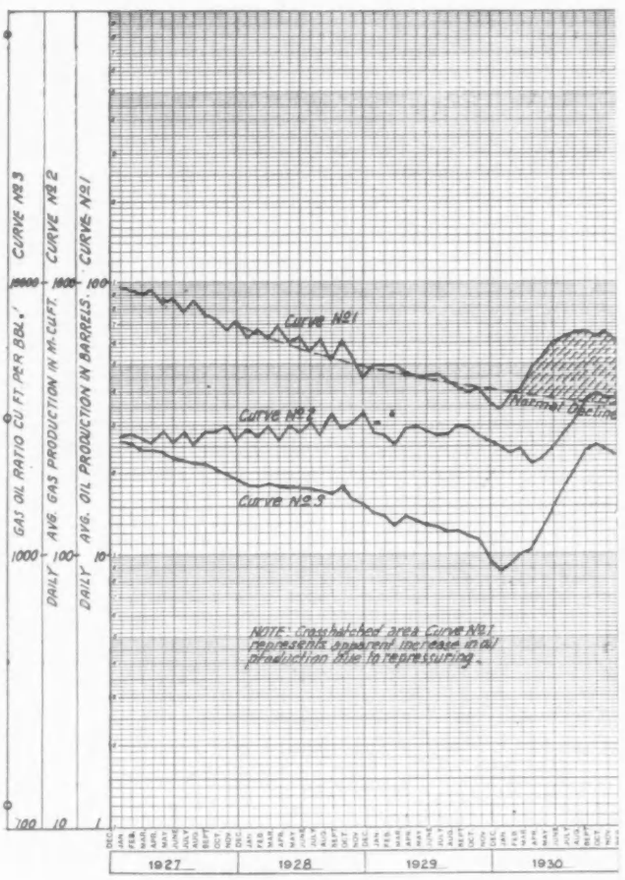
time it was put back on gas and would take only 30,000 cubic feet at 200 pounds. Throughout the remainder of 1929 and until November 22, 1930, the pressure ranged from 200 to 288 pounds and the well took from 60,000 to 130,000 cubic feet. On the latter date it was shut in and has received no further attention. Number 5, although requiring high pressures, has taken gas in a more satisfactory manner. Pressure ranged from 270 pounds down to 170 pounds and the input from 60,000 to 175,000 cubic feet. At the end of the year it was taking 60,000 cubic feet at 170 pounds working pressure. The curve for 1929 and 1930 shows relatively poor results as compared with some of the other properties. However, it should be noted that prior to repressuring the decline in oil and gas production had been very sharp but since the introduction of a pressure medium the curves have flattened appreciably. It appears that this lease is responding slowly but that much better results will be obtained in 1931.

Well No. 7 on the Mathews lease first received butane at the rate of about 30,000 gallons in March, 1929. On May 14 butane injection was discontinued and the well put on the pump. Well No. 17, a five-spot location, was completed and put on dry gas on August 24, 1929, taking about 20,000 cubic feet at 20 pounds working pressure. Pressure increased gradually throughout 1929 and 1930 with a corresponding increase in input. At the end of 1930 it was taking 250,000 cubic feet at 130 pounds. In March, 1930, well No. 7 was taken off of the pump and put back on gas, taking 100,000 cubic feet at 20 pounds. It continued to take above 100,000 cubic feet daily at relatively low pressures during the remainder of the year. On June 6, 1930, vacuum was cut to 11 inches and the following month reduced to 10 inches at which the lease is now operating. The two input wells are located in the center of the property and appear to be in an area of tight sand. It also appears that adjoining leases may have been helped through dissipation of pressure from a tight to a relatively loose sand area surrounding it.

Well No. 11 on the Hyatt lease went on repressure March 11, 1930, followed 11 days later by well No. 6. Here again is a condition which appears favorable for affect on offset properties. Well No. 11 started taking 60,000 cubic feet daily at a working pressure of only five pounds and increased to 125,000 cubic feet at 10 pounds. Within a short time the well pressured up to 190 pounds and was taking less than 10,000 cubic feet. The company went into the hole with tools and found a bridge approximately 400 feet up from bottom and 200 feet above the top of the liner. This material was found to be almost entirely scale from the inside of the casing. After cleaning out the input commenced at the rate of 100,000 cubic feet daily at 20 pounds working pressure. It was cleaned again in October when the pressure went up to 140 pounds and the input decreased to 6000 cubic feet. After this clean out it commenced taking gas at a satisfactory rate and at the end of the year was taking 120,000 cubic feet at 28 pounds. Well No. 6 took approximately the same amounts of gas as No. 11


GAS-OIL RATIO CU FT PER BBL. CURVE NO 3
AVG. GAS PRODUCTION M-CU.FT. CURVE NO 2
AVG. OIL PRODUCTION IN BARRELS CURVE NO 1
DAILY
Curve No 1
Normal Decline
Curve No 2
Curve No 3
NOTE: Crosshatched area Curve No 1 represents apparent increase in oil production due to repressuring
1927
1928
1929
1930

Agnes Hyatt, SW¼ Section 11-27-5


GAS OIL RATIO CU FT PER BBL. CURVE NO 3
AVG. GAS PRODUCTION IN M-CU.FT. CURVE NO 2
AVG. OIL PRODUCTION IN BARRELS CURVE NO 1
DAILY
Curve No 1
Normal Decline
Curve No 2
Curve No 3
NOTE: Crosshatched area Curve No 1 represents apparent increase in oil production due to repressuring
1927
1928
1929
1930

M. E. Alfred, Section 14-27-5

and at slightly higher pressures until November, when it built up to 160 pounds and quit taking gas. It was cleaned out and treated with hot water. At the end of the year it was taking 100,000 cubic feet at 45 pounds working pressure. Vacuum was cut from 11 to 10 inches on all output wells on May 25 and 10 days later reduced to nine inches at which the lease is now operating.

The Alfred lease went under artificial pressure on April 20, 1929, through well No. 10. Butane was injected intermittently to the end of 1929 and discontinued on January 8, 1930. On February 23, 1930, an unsuccessful attempt was made to introduce gas at 150 pounds. At 180 pounds the well started taking a small amount of gas and by April was taking 100,000 cubic feet at 190 pounds working pressure. Tubing was pulled the following month and the well cleaned out. After cleaning it took 150,000 cubic feet at 200 pounds and continued to take about the same amount during the rest of the year at slightly decreased pressures. On January 1, 1931, it was taking 145,000 cubic feet at 170 pounds working pressure. Well No. 1 was cleaned out in March, 1930, and No. 6 in May of the same year. The lease has consistently pulled about 10 inches vacuum.

The Manor lease started taking 60,000 cubic feet of dry gas daily at 200 pounds on May 24, 1929, and took from 100,000 to 150,000 at pressures ranging from 225 to 288 pounds. This rate was continued until November 24, 1930, when well No. 3, the input well, was closed in. This lease is near the northeast margin of the pool, structurally high for that area. Well No. 11 was added on March 25, 1930, taking 120,000 cubic feet at 130 pounds working pressure. On January 1, 1931, the gas input had increased to 250,000 cubic feet at 160 pounds. Vacuum was cut from seven to six inches on July 25, 1930.

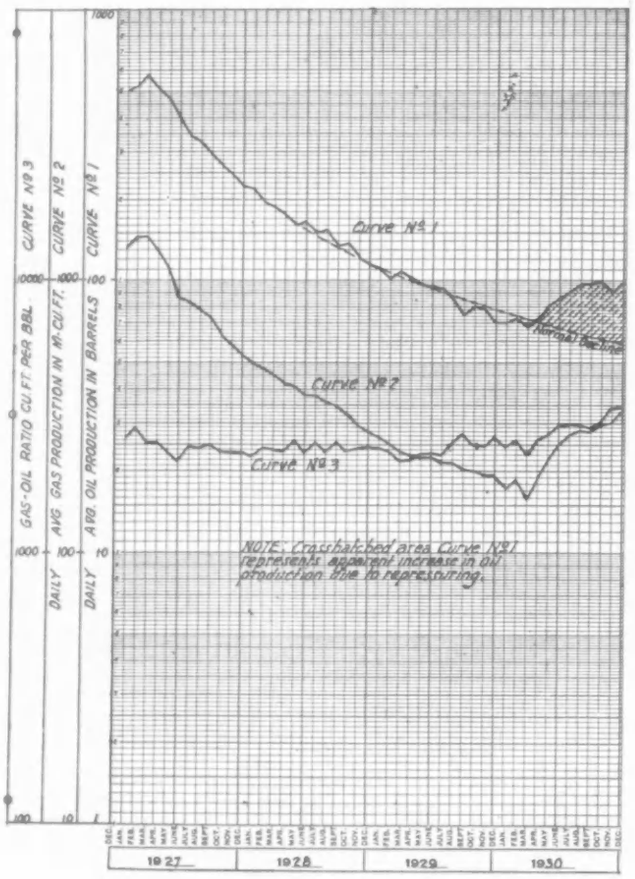
The Agnes lease had shown favorable signs through the effect of offset repressure as early as June, 1928. Well No. 7 was put in condition and started taking 100,000 cubic feet at 70 pounds pressure on March 9, 1930. It continued at about the same rate throughout the year with all output wells pulling 10 inches vacuum.

No curves are available on the Oklahoma College lease. Well No. 16 started taking 100,000 cubic feet at 20 pounds on May 8, 1930. It gradually pressured up to 190 pounds and was taking smaller amounts of gas when shut in early in August. Later in the month it took 40,000 cubic feet at 185 pounds. It was cleaned out in September and December and took 100,000 cubic feet at 20 to 35 pounds working pressure. Vacuum was cut to 10 inches on April 19, 1930.

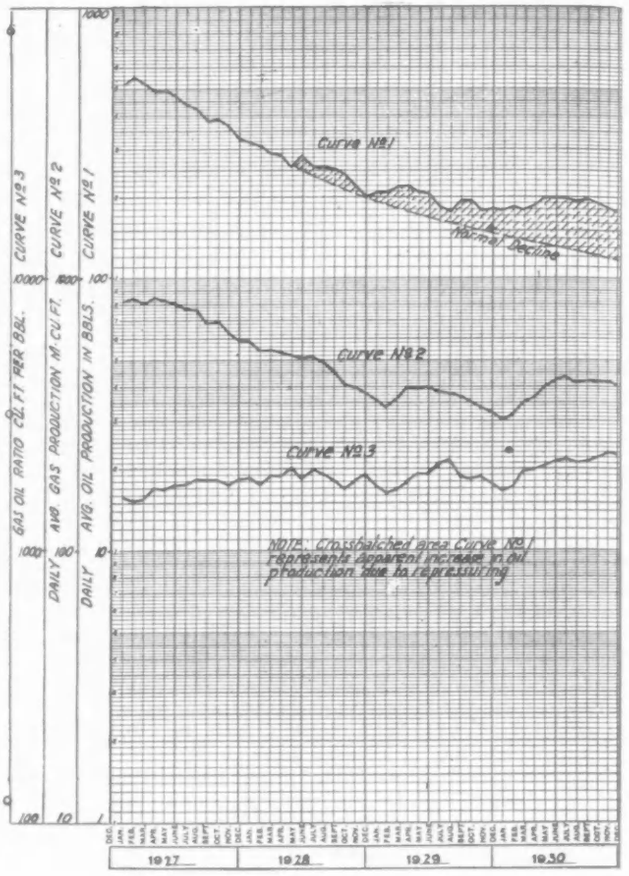
The Brown lease, SE Section 1-27n-5e, a northeast edge property, surrounded by offset repressure projects, offers some interesting data. Prior to injection of gas in the Lawrence, Hayes and Hetta leases, it had shown a rapid decline in oil and gas production. In June, 1930, more than a year after repressure had been commenced on the offset properties, it started showing increased production with only four inches vacuum. Here apparently is a slowly progressing gas drive toward the impervious sandy-shale area, a condition which should show decidedly encouraging results during 1931.

Central Part of Pool

The Moncravie, Dell, Lillie, L. Hickman, Collette, and Wimberly leases in the central part of the pool, have been



S. Manor, SE¼ Section 2-27-5



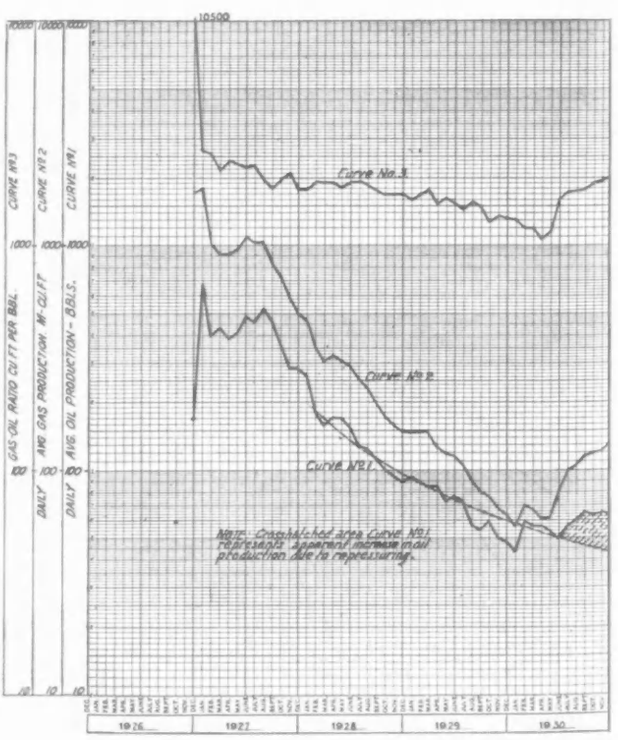
L. Agnes, SW¼ Section 12-27-5

repressured principally with butane and all wells on about the same plan. The following tabulation gives a brief resume of the plan which has been followed:

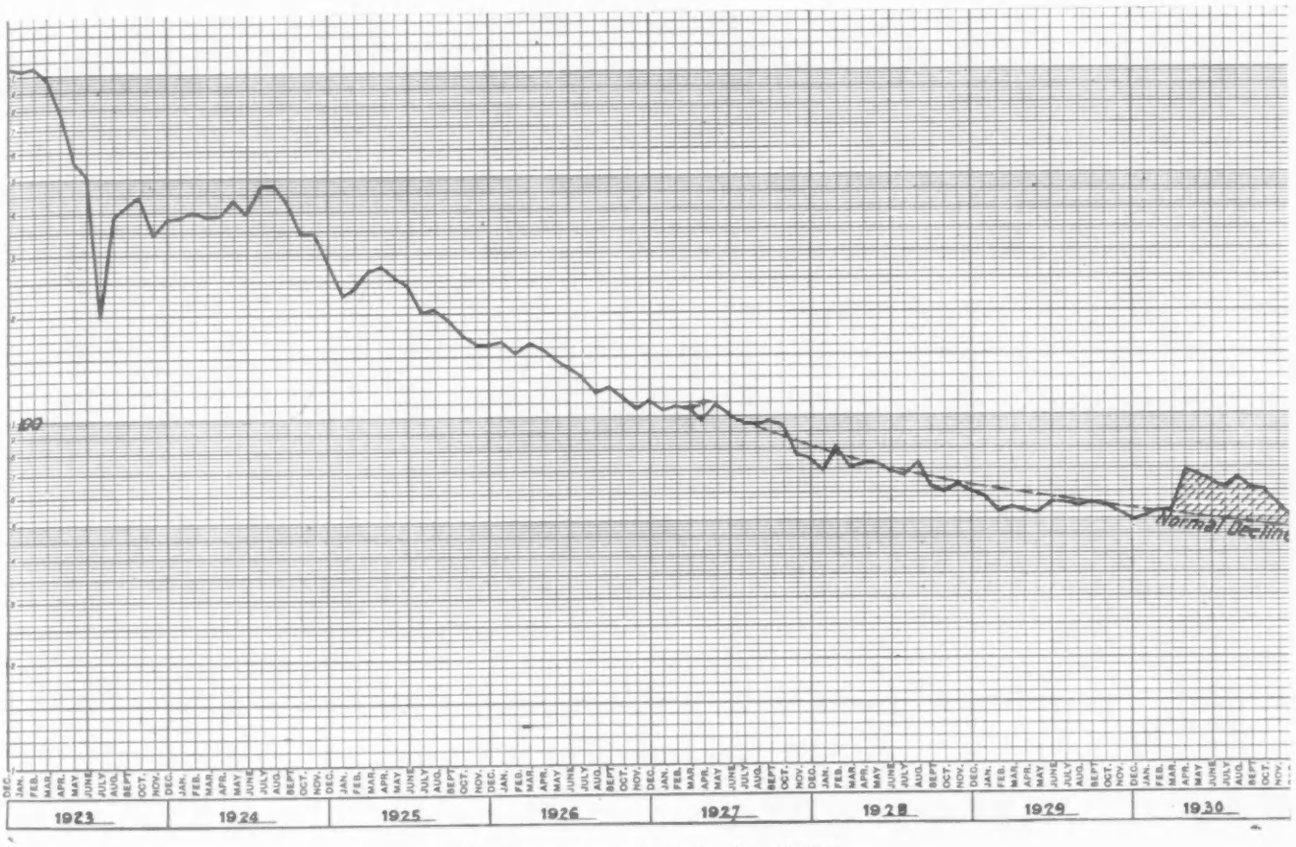
Lease	Date First Repres.	Av. Rate Input Monthly Gallons	Pressure Pounds	Remarks
Moncravie well No. 8	2-18-30	415,000	80	Dry gas injected July 13-Dec. 6, 100,000 daily at 70 lbs. w.p. Returned to butane Dec. 6.
Dell well No. 11	2-11-30	457,000	80	Vacuum cuts May 29-14″ to 12″; Oct. 2—11″ to 10″.
Lillie well No. 1	June, 1930	Same as Dell lease		No production curves available.
L. Hickman well No. 15	6-26-30	112,000	?	70,000 to 100,000 at 70 to 100 lbs. Dry gas 7-13-30 to 12-6-30.* Returned to butane 12-6-30.
Collette well No.	8-2-29	307,000	?	72,000-100,000 dry gas 7-13-30 to 11-26-30. Returned to butane 12″ to 14″ vacuum.
Wimberly	5-23-29	526,000	?	100,000 to 190,000 dry gas at 175 to 200 lbs. 7-13-30 to 12-6-30. Rocked up 200 lbs., took 50,000 gas 11-17-30. Blew down and removed rust. Returned to butane 12-6-30.

* Vacuum cuts, Oct. 9—13″ to 12″; Oct. 18—12″ to 11″; Oct. 25—11″ to 10″.

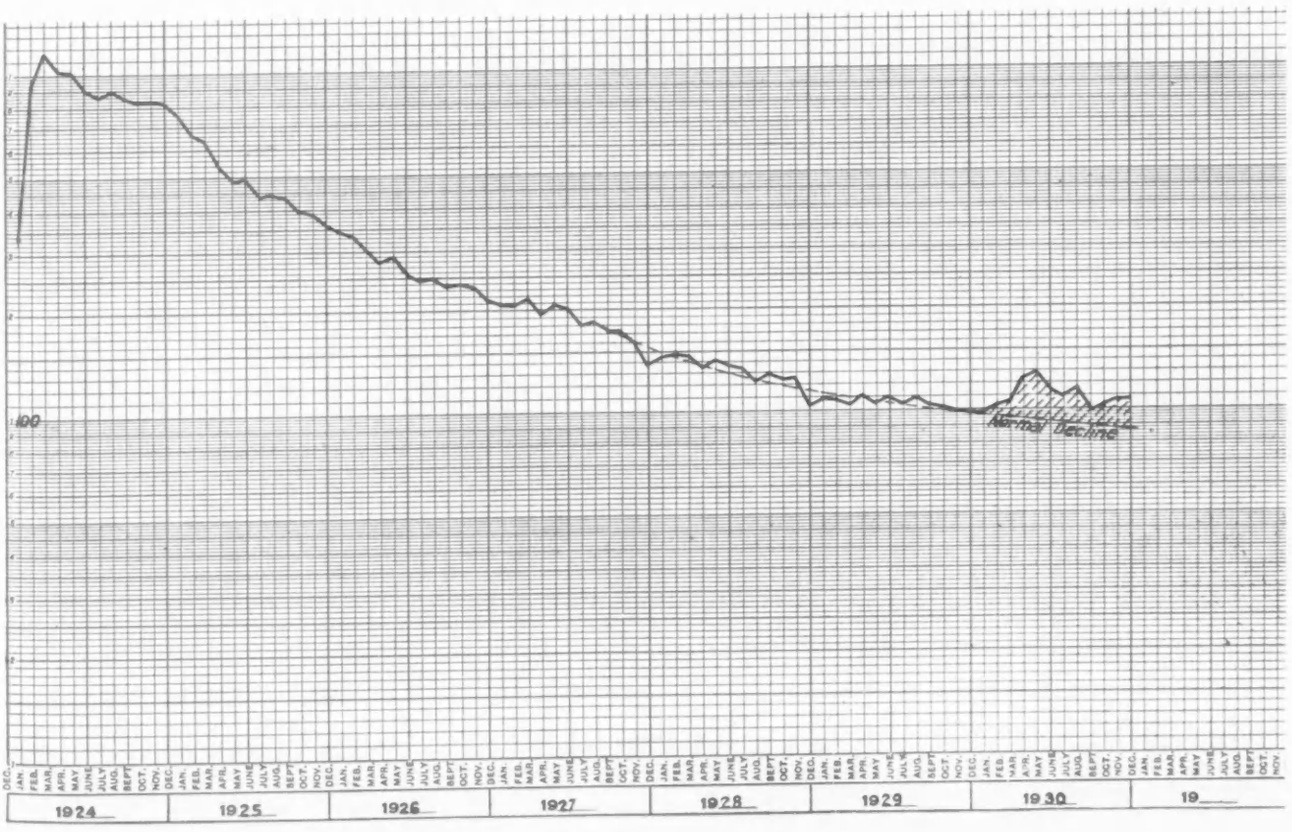
It will be noted that each of the six leases has received an average of about 13,110 gallons of butane daily or the equivalent of approximately 300,000 cubic feet of gas, using 25 cubic feet per gallon of butane as an approximate conversion factor.



W. Brown, SE¼, Section 1-27-5

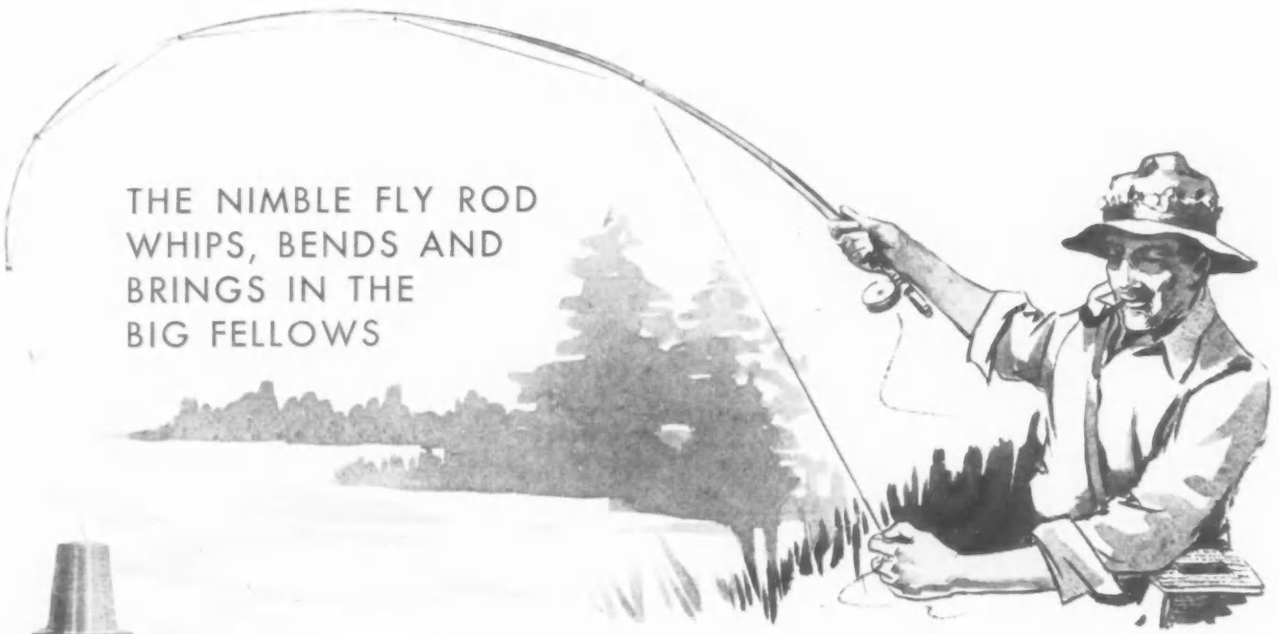


Lillie Hickman, NE¼ Section 25-27-5



L. M. Dell, NE¼ Section 26-27-5

FLEXIBLE THINGS ENDURE



FLEXIBLE CUPS ON THE GUIBERSON SWAB GIVE WAY TO PROTRUSIONS AND LIFT A FULL LOAD OF OIL

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Flexible cups, guided by basket-shaped steel wires, escape wear from wrinkles, dents and other damaged spots in the casing. The heavier the column of oil, the tighter the seal between the cup rims and the casing. This seal is preserved even with the protrusions, so that not a drop of fluid runs back into the hole. On the trip down, pressure from below collapses the cups, allowing far speedier passage into the hole. The Guiberson Swab is doing most of the world's swabbing today.

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BETTER BE SAFE THAN SORRY

Markets • Production • Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Big Production Decline Follows Shut-Down

A production decline of 97,850 barrels daily was the result last week of shutting in of pumping wells in the Mid-Continent area. Daily average production reported to the American Petroleum Institute declined from 2,544,650 barrels for the week ending July 11 to 2,446,800 barrels for the week ending July 18. Last week's sharp decline is the answer to new low prices for crude in the Mid-Continent and signifies the inability of many operators to withstand the pressure being exerted by economic forces. As expected, East Texas production increased further, showing a gain over the preceding week of 27,250 barrels. Thus, for the first time in its history, the East Texas area has passed the 400,000-barrel mark for daily average output. Nor will that figure prove to be the highest during the present period of depression, since it has been learned that the rate of production there this week indicates a considerably larger daily average.

Hundreds of pumping wells were shut in during the past week throughout a wide area in the Mid-Continent fields. Additional hundreds will probably be shut in this week and a further sharp decline in production can be expected. This process will probably be continued until the situation prompts the posting of higher prices for oil in the Mid-Continent. In the meanwhile, East Texas operators continue to strive for a greater market outlet for their surplus production and as long as connections can be made production is bound to increase. The completion of additional pipe line outlets in East Texas is expected to facilitate matters for producers whose wells have been without pipe line connections. In fact, it is likely that competition will be waged between the various pipe line companies and practically all wells in East Texas will be furnished with an outlet. What this means in the way of increased production is not difficult to foresee; it can easily spell a production of more than 500,000 barrels within the next few weeks. It also means that East Texas is filling the breach left open by the shutting in of pumping wells elsewhere.

While the situation offers little encouragement on the surface it is obvious that continued opening up of new producing wells in East Texas is hastening the day when the peak of production will have been reached. A great many wells in the Joinerville area are already on the pump and it is expected that a great many more will follow. It is only a question of time before a majority of wells in East Texas will be pumpers and the sooner that time comes the sooner will oil prices be boosted. It is evident, at least, that little can be done to enforce proration in East Texas, unless some drastic legislation results from the special session of the Texas legislature. If legislation is enacted to enforce proration, it will probably not become effective, anyway, until the damaging effects of East Texas have begun to show signs of subsiding. Under these circumstances it is logical to believe that East Texas is rapidly forging ahead to the day when proration will be voluntarily adopted as a necessity. It was stated above that East Texas production might easily pass the 500,000 barrels mark in a few weeks, but it is confidently believed that this mark has already been passed, but has not shown up in the official production estimates. If it is true that production is actually somewhat greater than the official estimates reveal then it is also reassuring that the peak of that area is not as far away as many would seem to believe.

Excess production above allowables now only aggregates 83,200 barrels a day, but Texas shows a daily excess of 203,400 barrels. Practically all other producing states have reduced production to the point where it is somewhat below allowable or economic limits. In this connection it is interesting to note that the allowable or economic production limit for the United States, outside of Texas, is 1,552,500 barrels while last week's actual production amounted to but 1,432,300 barrels, or 120,200 barrels less than the prescribed limit. This shows the extent to which East Texas has dominated the unsatisfactory state of the industry's oil markets. Practically all districts in Texas, outside of East Texas, recorded sharp declines in production last week. East Central Texas, West Central, North and Panhandle areas showed declines which aggregated more than 14,000 barrels a day. Oklahoma led all states in the rate of decline with a production drop of 111,450 barrels. This shows the effect of the producers' strike and the degree with which pumping wells were shut down. Practically all producing districts of the United States with the exception of East Texas and California reported materially lower production last week. Oklahoma's production is now 29,000 barrels below the allowable figure and Kansas is producing 20,500 barrels less than the former allowable output.

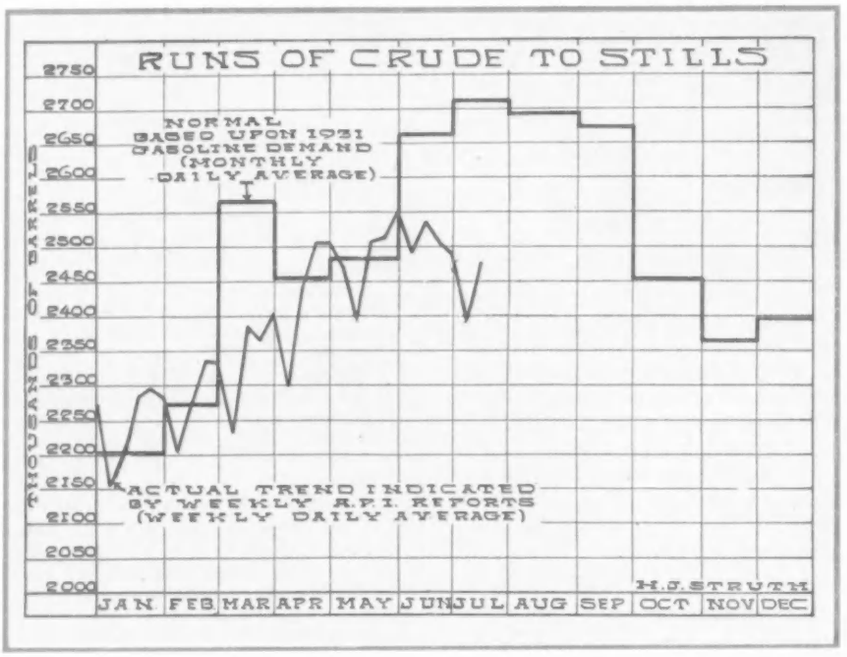
Continental Posts 40 Cents Barrel In Mid-Continent

Ponca City, Okla.—Continental Oil Company announced that effective July 21 a flat price of 40 cents a barrel would be paid for all oil purchased by that company in Oklahoma, Kansas and North Texas. This company has been paying from 10 to 22 cents a barrel for Mid-Continent oil, in line with the schedule made effective July 8. Many operators believe that this move toward establishing higher prices will be followed by the major purchasing companies. This new price is three cents higher than the former maximum posting of 37 cents a barrel which was placed into effect on June 1.

In this connection, it is pertinent to note that Magnolia Petroleum Company has maintained a flat price for Mid-Continent oil of 35 cents a barrel despite the drastic downward revision of July 8.

Toronto, Canada.—John W. McCall, capitalist of Toronto, and associates are contemplating the erection of a 6000-barrel daily capacity crude topping plant near Toronto, with possibilities of a cracking system also being installed. The project is expected to cost about $750,000. A portion of the crude supply may be imported from East Texas through a combination pipe line and tanker haul, as other Canadian refineries have lately become heavy consumers of crude from the prolific field in Texas because of the quality and price of the oil.

MARKET SECTION



Gasoline Demand Continues Increase

That the demand for gasoline is continuing to increase at a substantial rate is indicated by last week's report of gasoline stocks and refinery runs, prepared by the American Petroleum Institute. Gasoline stocks, on a Bureau of Mines basis, are now down to a total of 38,050,000 barrels, a decline from the preceding week of nearly a million barrels. This means that, compared with last year, gasoline stocks have declined more than 12,000,000 barrels. Elsewhere in this issue an article[1] shows what has happened in the way of a decline in gasoline stocks, intimating that the present supply (taken as of July 11) represents a quantity only sufficient to last 28½ days. With the latest report, it is seen that even more gratifying results are shown, indicating that the probable stored supply of gasoline would only last about 28 days, or perhaps slightly below that figure. Judging from the figures obtained during recent weeks it is probable that the Bureau of Mines reports for June and July will show a material change for the better. They will undoubtedly prove that the demand for gasoline has greatly exceeded previous expectations and that the industry has through this demand and through measures of control effected a de-

[1]Page 15.

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Week Ending July 11, 1931

(Figures in barrels of 42 gallons)

District—	Total	Potential Cap (Daily) acity Reporting	Per Cent	Total	Daily Crude Runs to Stills Average	Per Cent Operated	Stocks Gasoline (see note below)	Fuel Oil Gas & Stocks
East Coast	633,700	633,700	100.0	3,411,000	487,300	76.9	6,764,000	9,870,000
Appalachian	149,600	137,400	91.8	587,000	83,900	61.1	1,374,000	1,250,000
Ind., Ill., Ky.	436,300	421,500	96.6	2,084,000	297,700	70.6	5,852,000	3,801,000
Okla., Kans., Mo.	485,700	435,200	89.6	2,186,000	312,300	71.8	2,755,000	5,016,000
Texas	838,200	765,400	91.3	3,612,000	516,000	67.4	7,156,000	10,704,000
Louisiana-Arkansas	233,100	230,500	98.9	1,366,000	195,100	84.6	1,343,000	2,703,000
Rocky Mountain	159,400	142,300	89.3	377,000	53,900	37.9	1,753,000	849,000
California	912,500	880,100	96.5	3,205,000	457,800	52.0	*11,345,000	98,443,000
Total week July 11	3,848,500	3,646,100	94.7	16,828,000	2,404,000	65.9	38,342,000	132,636,000
Total week July 4	3,848,500	3,646,100	94.7	16,273,000	2,324,700	63.8	39,698,000	131,367,000
Total July 12, 1930	3,686,400	3,528,400	95.7	17,577,000	2,511,000	71.2	47,792,000	139,085,000
The Texas and Louisiana Gulf Costal Figures Shown Below are Included Above in the Totals of their Respective districts.								
Texas Gulf Coast	532,500	531,500	99.8	2,671,000	381,600	71.8	6,029,000	7,642,000
Louisiana Gulf Coast	147,500	147,500	100.0	894,000	127,700	86.6	1,229,000	1,755,000

NOTE—In all the refining districts indicated except California, figures in this column represent gasoline stocks at refineries. In *California, they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within continental United States—(stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto).

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

State—	Indicated Demand Third Quarter 1931	Economic Limit Third Quarter 1931	Daily Average Last Week	Daily Excess Last Week	Daily Average Since January 1	Daily Excess Since January 1†
Arkansas	63,000	60,000	41,050	—18,950	47,355	—8,645
California	525,000	487,500*	525,000	37,500	528,097	32,297
Kansas	127,000	120,000	99,500	—20,500	107,796	—5,204
Louisiana	85,000	75,000	56,850	—18,150	66,608	—7,392
Oklahoma	593,000	550,000*	521,000	—29,000	525,710	19,010
Texas	860,000	797,000*	1,000,400	203,400	828,019	116,319
Balance of U. S.	275,000	260,000	188,900	—71,100	206,324	—35,376
Total	2,528,000	2,349,500	2,432,700	83,200	2,309,909	111,009

*Allowable.
†Excess based on allowable to date.

cidedly improved degree of balance in the supply and demand of both crude oil and gasoline.

Runs to stills for the week ending July 18 averaged 2,547,000 barrels a day, compared with 2,476,000 barrels in the preceding week. Incidentally, last week's rate of crude throughput at refineries marked a return to the highest rate attained this year, the previous high record having been made during the week ending May 30, when runs averaged 2,548,000 barrels. In view of the fact that the rate of throughput has been somewhat less than the indicated normal rate prescribed by the gasoline demand, it is believed that attainment of the season of peak gasoline consumption will be accompanied by larger still runs during the next few weeks. This is particularly evident since stocks of gasoline have reached a comparatively low point and consumption continues to exceed expectations. From a demand standpoint, there is every reason to believe that 1931 will offer some surprising evidence of large volume business but, unfortunately, this large volume of business will have been carried at slim, if any, margins of profit.

The fact that production of crude is dropping sharply and

Cracked Gasoline Production

Week Ending July 11, 1931

(Barrels of 42 gallons)

District	Potential Cracking Capacity (Daily) Total	Reporting	Per Cent	Production Daily Total	Average
East Coast	261,300	236,300	90.4	631,000	90,100
Appalachian	52,300	50,100	95.8	159,000	22,700
Ind., Ill., Ky.	330,400	306,400	92.7	589,000	84,200
Okla., Kans., Mo.	237,800	219,500	92.3	401,000	57,300
Texas	450,800	436,200	96.8	839,000	119,900
Louisiana-Arkansas	112,400	112,400	100.0	208,000	29,700
Rocky Mountain	99,100	94,600	95.5	105,000	15,000
California	180,800	180,800	100.0	288,000	41,100
Total Wk. July 11	1,724,900	1,636,300	94.9	3,220,000	460,000
Total Wk. July 4	1,724,900	1,636,300	94.9	3,089,000	441,300
Total July 12, '30	1,589,200	1,261,800	79.4	2,634,500	376,400
The Texas and Louisiana Gulf Coastal Figures Shown Below are included above in the totals of their respective districts.					
Texas Gulf Coast	352,400	347,400	98.6	641,000	91,600
Louisiana Gulf Cst.	77,000	77,000	100.0	154,000	22,000

Imports of Petroleum at Principal United States Ports

(Barrels of 42 Gallons)

	Week Ended July 11	Week Ended July 4
AT ATLANTIC COAST PORTS—		
Baltimore	...	343,000
Boston	118,000	...
New York	805,000	902,000
Philadelphia	40,000	300,000
Others	136,000	*282,000
Total	1,099,000	1,827,000
Daily Average	157,000	261,000
AT GULF COAST PORTS—		
Galveston District	...	62,000
New Orleans and Baton Rouge	103,000	95,000
Port Arthur and Sabine District	...	...
Tampa	...	...
Total	103,000	157,000
Daily Average	14,714	22,429
AT ALL UNITED STATES PORTS—		
Total	1,202,000	1,984,000
Daily Average	171,714	283,429
Daily Average Four Weeks Ended	192,143	222,857
Distribution of Total Imports Is As Follows:		
Crude	565,000	*1,132,000
Gasoline	144,000	473,000
Kerosene	...	...
Gas Oil	...	...
Fuel Oil	493,000	379,000
Lubricants	...	...
Total	1,202,000	1,984,000

*Revised.

California Oil Receipts at Atlantic and Gulf Coast Ports

(Barrels of 42 Gallons)

	Week Ended July 11	Week Ended July 4
AT ATLANTIC COAST PORTS—		
Baltimore	60,000	138,000
Boston	...	...
New York	165,000	210,000
Philadelphia	226,000	...
Others	45,000	...
Total	496,000	348,000
Daily Average	70,857	49,714
AT GULF COAST PORTS—		
Total	...	...
Daily Average	...	...
AT ATLANTIC AND GULF COAST PORTS—		
Total	496,000	348,000
Daily Average	70,857	49,714
Daily Average Four Weeks Ended	41,893	30,571
Distribution of Total California Oil Receipts Is As Follows:		
AT ATLANTIC COAST PORTS—		
Crude	...	...
Gasoline	496,000	301,000
Kerosene	...	47,000
Total	496,000	348,000

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	491,550	111,400	579,350	190,100	44,050	52,000	116,400	101,950	601,200	2,288,000	68,639,150
December	459,300	105,550	533,400	189,300	43,000	51,100	112,200	100,500	587,450	2,181,800	67,636,500
1931											
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February	473,750	114,450	523,700	185,600	43,950	49,950	109,300	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,300	95,400	528,100	2,225,500	68,990,850
April	543,650	109,250	723,050	185,850	39,050	47,000	111,500	95,500	527,350	3,382,200	71,465,750
May	551,950	107,400	767,200	185,950	39,200	46,650	111,250	97,500	534,150	2,451,250	75,975,950
June	556,850	103,150	828,250	170,100	36,500	44,900	108,950	97,950	520,300	2,466,950	74,009,750
July 4	591,600	103,150	830,500	163,250	35,200	43,900	108,650	99,650	506,600	2,482,500	17,377,500
July 11	632,450	101,450	850,650	159,800	33,750	43,500	107,750	92,300	523,000	2,544,650	17,812,550
July 18	521,000	99,500	864,500	158,800	33,950	41,050	101,500	87,400	525,000	2,446,800	17,127,500
Increase	.....	.....	13,850	.....	200	.....	.....	.....	2,000	.....	.....
Decrease	111,450	1,950	.....	1,800	.....	2,450	6,250	4,900	.....	97,850	685,050

Last Week's Daily Average Production by Districts

	July 18	July 11
Panhandle District	57,800	59,250
North Texas	58,850	60,600
West Central Texas	26,250	27,600
West Texas	201,550	205,150
East Central Texas	53,500	59,450
East Texas	408,800	381,550
Southwest Texas	57,750	57,050
Texas Gulf Coast	135,900	136,650
Total Texas	1,000,400	987,300
OKLAHOMA	521,000	632,450
CALIFORNIA	525,000	523,000
KANSAS	99,500	101,450

LOUISIANA	July 18	July 11
North Louisiana	33,950	33,750
Louisiana Gulf Coast	22,900	23,150
Total Louisiana	56,850	56,900
ARKANSAS	41,050	43,500
MOUNTAIN STATES		
Wyoming	41,000	38,200
Montana	1,400	8,100
Colorado	3,650	4,050
New Mexico	41,350	41,950
Total Mountain States	87,400	92,300
EASTERN STATES	101,200	107,750
Total United States	2,446,800	2,554,650

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	1	..	1	..	..	..	..	..	490	...
California	6	7	4	6	..	..	2	1	8,300	29,300
Illinois	..	2	..	1	..	..	..	1	...	4
Indiana	10	..	3	..	4	..	3	..	45	...
Kansas	9	9	5	2	4	6	..	1	3,100	1,250
Kentucky	1	3	1	2	..	1	..	..	300	15
Louisiana	4	4	1	..	1	2	2	2	500	...
Michigan	..	..	..	..	..	..	..	..	...	...
Mississippi	1	1	..	..	..	..	1	1	...	...
New York	5	..	3	..	1	..	1	..	8	...
Ohio	16	12	1	2	10	5	5	5	50	37
Oklahoma	12	19	2	8	4	5	6	6	29,163	40,575
Pennsylvania	35	2	13	..	13	2	9	..	43	...
Texas	91	112	64	98	2	2	25	12	387,264	745,173
West Virginia	11	8	4	..	7	6	..	2	12	...
*Total	202	179	102	119	46	29	54	31	429,275	816,354
Increase this week	23	..	..	..	17	..	23	..	...	...
Decrease this week	..	..	17	..	..	..	..	..	387,079	...

*Completions from Loving field not listed on total this week.

Comparison of Permits Granted for New Wells

State—	Week Ending July 18	Previous week	This week 1930	Total this month	This month 1930	Total this year	Total this date last year	1930 year total
Arkansas	..	..	1	..	2	23	60	108
California	4	2	18	9	53	233	450	922
Louisiana	3	4	16	13	57	192	609	948
Kansas	2	8	6	24	42	271	596	944
Oklahoma	8	6	80	31	232	538	1,935	2,830
Texas	98	96	176	283	136	3,235	4,599	7,052
Total	115	116	297	360	822	4,494	8,249	12,804

MARKET SECTION

gasoline demand is good points to further betterment in the gasoline price structure. Buyers who have hesitated to make large commitments with the uncertainty of the crude market are becoming convinced that the bottom has already been reached in both the crude and gasoline markets. It is believed, therefore, that refiners will experience a consistent increase in gasoline buying that will readily sustain a higher scale of prices. Despite the East Texas situation, there is every reason to believe that a gradually better tone will prevail in the crude and gasoline market. Even though gasoline prices show some strength, it is expected that crude prices will not immediately follow such improvement, due mainly to the persistency with which East Texas production is being increased and sold at ridiculously low prices. It is only a question of time, however, until the crude market will react to the general slowing down of production and drilling outside of East Texas. At any rate, the figures offer logical reasoning that the bottom of the oil price structure has been seen and that next move will be upward.

Mid-Continent Producers' Strike Strengthens Crude

Continued resistance to the lowest crude price postings in the history of the petroleum industry has finally given the market an uneven picture, which presents some evidence that the price curve has reached its low point. The market is yet in an unsettled condition. The changes that have occurred since July 8, when the lowest schedule was posted, all have been upward. These are isolated instances of independent refining concerns either continuing to pay the schedule in effect prior to July 8 or of instances where premiums are being paid.

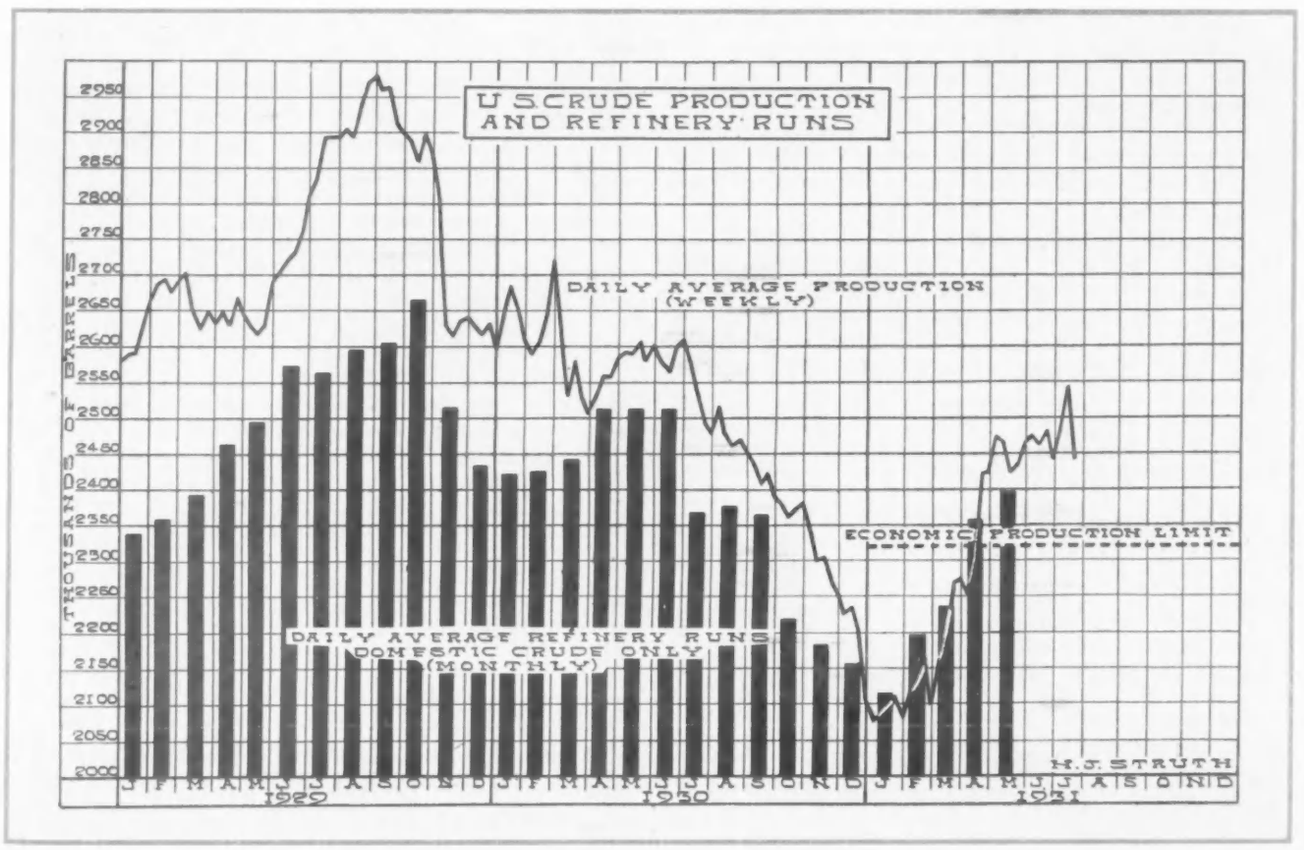
Resistance to low prices has been of desperate nature. Producers have resolved not to accept prevailing prices and have elected to shut down leases instead. While this has not assumed proportions of universal adoption, its use in isolated instances has been successful. It has left producers convinced that refusal to sell oil at an average price of 18 cents a barrel will bring offers at higher prices.

In Kansas, for instance, independent refiners are paying the schedule prevailng prior to July 8. The White Eagle Oil & Refining Company, subsidiary of Standard Oil Company of New York, has posted flat prices for Kansas areas with a top figure of 37 cents a barrel and low price of 25 cents a barrel. Skelly Oil Company, Vickers Petroleum Company, Golden Rule Refining Company, Kanotex Refining Company, El Dorado Refining Company and Derby Oil Company are paying the former price schedule.

Phillips Petroleum Company is continuing the former price schedule in both Oklahoma and Kansas.

Even the concerns which have adopted the lower schedule are drawing on stored oil for refinery requirements. This situation is not desired, as it is forcing the liquidation of high priced oil at the lowest schedule in the history of the petroleum industry. This situation applies in particular to concerns whose chief requirements are now from the Oklahoma City field. The shut down of leases there has left buyers unable to fill requirements.

The present price schedule in the Mid-Continent is based on prices for East Texas crude. But independent refining concerns of Oklahoma and Kansas do not have access to East Texas crude. When producers have declined to accept a market



MARKET SECTION

based on East Texas, refiners have been compelled to pay high prices and evidently will continue to pay prices higher than those known as the posted market.

Oklahoma City Shut Down

So far the shut down move has had its telling effect in the Oklahoma City field. Output there last week was at the rate of 144,075 barrels per day, against an average of 259,340 barrels for the week previous. To accomplish this reduction, producers during the week had as many as 365 wells shut in. T. B. Slick, Inc. had 89 wells off prdouction; Coline Oil Company had 34 not producing; Phillips Petroleum Company took 46 out of production; Anderson-Prichard removed 27 wells from the active list; Skelly Oil Company was not producing 16 wells. The remainder of the wells in the shut down list came from leases of only a few wells and were owned by independent concerns.

While the Oklahoma City field was producing its 1,008,520 barrels for the week, runs from the field were 1,199,148. As the Oklahoma City field does not have much storage, other than for lease purposes, this reduction represented a material reduction for the field. The week previous runs from the Oklahoma City field were 1,623,490 barrels.

The drop of 114,265 barrels in Oklahoma City daily output was responsible for the reduction in total output for Oklahoma, which averaged only 520,310 barrels for the week. Output for the several Seminole fields was up 8000 barrels daily and there was further withdrawal from storage in that area.

Although the early threat of shutting down leases came from the settled areas, evidently it has had little influence so far, as Oklahoma City has contributed the greater part of the production drop for the state. The announcements of independent refiners that former prices would be paid has had its influence toward keeping the settled areas active.

Despite payment of the former price schedule by Kansas refiners, output there for the week passed dropped to 99,275 barrels daily. This is the first time Kansas production has been under the 100,000-barrel level in many weeks. Frequently it has reached 110,000 barrels.

The tension in independent refining circles has had its influence on gasoline prices, which have moved to around three cents per gallon, against an extreme low of 2¼ cents prevailing three weeks back. In Tulsa and Oklahoma City retail prices for gasoline were advanced a cent last week. The move was made by Magnolia Petroleum Company.

Production Control Not Much Help in California

An analysis of individual California fields shows that Kettleman Hills is the only threat in the state. It is also interesting to note that potentials of several fields are much higher than average estimates by engineers indicate. The industry has suffered and is suffering, despite a lower production than expected, but such factors as East Texas, lower Canal shipments, and keen competition from other producing districts are responsible.

Two years ago, a production of 525,000 barrels was not expected by the middle of 1931. Such a low output is now a reality, yet there seems to be too much oil. This is possible only because some of California's best customers are getting a portion of their products elsewhere. Local consumption has been holding up well, but exports have not accounted for a full portion of the surplus of 1928-1930.

Receivers for various oil companies are eager to make a good showing and are producing and marketing more oil than their just portion, according to officials of the principal oil producers' agency. This practice has weakened both the crude and refined markets, it has been set forth by the agency.

Marketing of gasoline on a consignment basis, a practice which is not necessarily new in California, is being tried extensively again. Under this scheme, all retailers agree to pay a certain tank wagon price and sell the gasoline at a set price, as agent for the refiner, or original selling concern.

Kettleman Hills will be held to an output of 60,000 barrels for the remainder of 1931, if the latest plan is completed. Principal producing companies have agreed to reduce their production to conform to the new ruling. Some of the holdouts have agreed to make concessions by reducing lease outputs sharply.

California's potential production is shown to be higher than that of a month ago. Kettleman Hills is given a higher total than expected and there is some doubt concerning the field's ability to make 163,000 barrels.

Texas Pipe Line Reduces Tariff in All Texas Areas

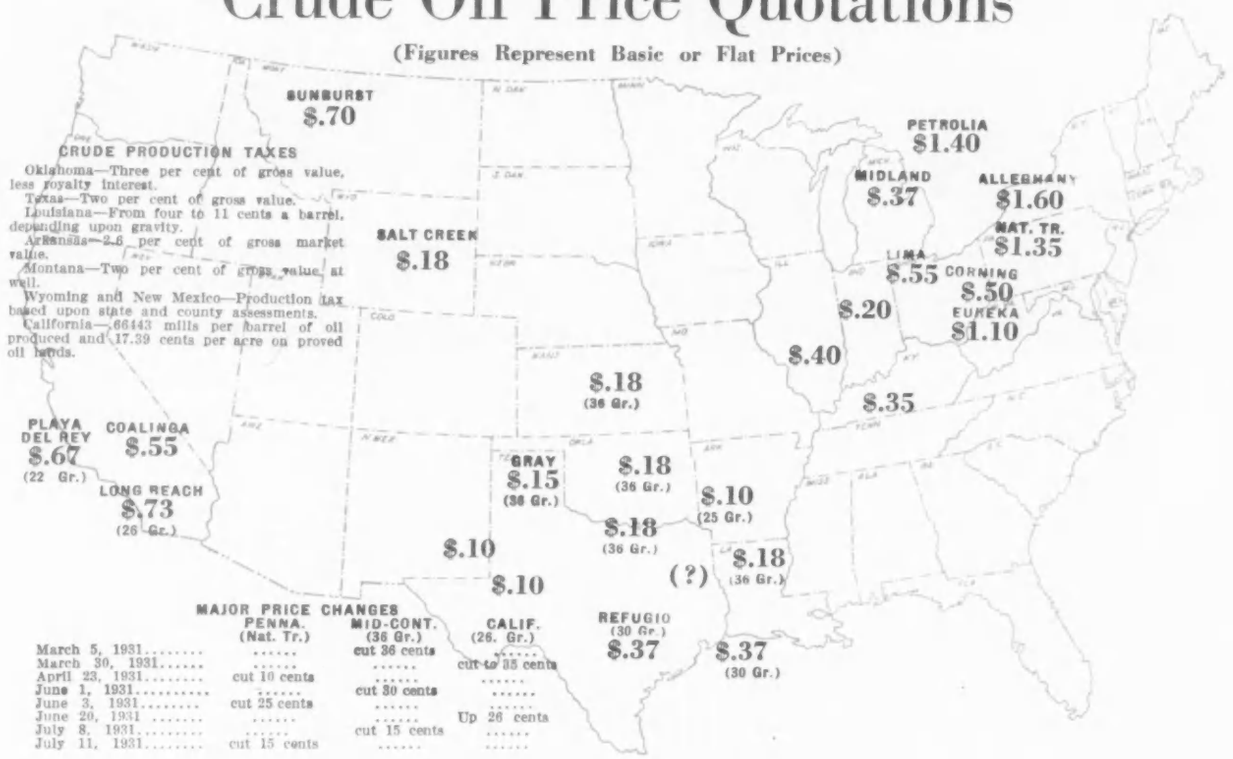
Fort Worth, Texas.—General reduction of pipe line tariff on crude shipments by Texas Pipe Line Company from points in North and Central West Texas, Panhandle and the West Texas-New Mexico district became effective July 16. This slash in transportation charges places the company on an equal basis with Humble Pipe Line Company, which put a similar reduction in effect June 6. Neither company altered its rates on East Texas crude shipments

The Texas Company's new tariff on Panhandle crude moving to Electra and Wichita Falls is 12½ cents per barrel, and also a 12½ cents field gathering charge, while cost of deliveries to Houston and Texas City is 37½ cents, and 41½ cents to Port Arthur, exclusive of gathering charges. The trunk line tariff from West Texas and New Mexico areas to Houston and Texas City is 32½ cents, and 10 cents gathering charges, while the Breckenridge-Ranger shipments to Houston and Texas City cost 31 cents, and 35 cents to Port Arthur, with 12½ cents field gathering charge. A similar gathering charge applies in North Texas with a trunk line rate of 13½ cents to Fort Worth; 15 cents to West Dallas; 31 cents to Houston and Texas City; and 35 cents to Port Arthur.

Texas City, Texas.—Republic Oil Refining Company, which is owned 50-50 by Big Lake Oil Company and Republic Oil Company of Pittsburgh, is erecting an 82,000-barrel steel tank at its refinery and terminals here to supplement storage already in service. The company has been operating the skimming unit of its 5000-barrel refinery since July 10, and will shortly complete its cracking units. The plant is operating on high gravity crude obtained from deep wells in the Big Lake field, West Texas.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.5 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26. Gr.)
March 5, 1931	.....	cut 36 cents	.....
March 30, 1931	.....	.....	cut to 35 cents
April 23, 1931	cut 10 cents	.....	.....
June 1, 1931	.....	cut 30 cents	.....
June 3, 1931	cut 25 cents	.....	.....
June 20, 1931	.....	.....	Up 26 cents
July 8, 1931	.....	cut 15 cents	.....
July 11, 1931	cut 15 cents	.....	.....

Official Postings and Differentials

(Revised to July 22, 1931)

California: (Effective June 19, 1931).

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity, 67 cents with differential of two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello; 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma-Kansas-North Texas: (Effective July 8, 1931). Below 29 gravity 10 cents with differential of 1 cent for each degree beginning with 29 gravity and ending with 40 gravity and above. Top price 22 cents a barrel. North Texas posting applies to oil produced in Wichita, Wilbarger, Archer, Northern Young, Van Zandt, Mexia, Powell, Boggy Creek, Richland, Wortham and Currie. Same posting applies to Ranger and Moran crude.

Texas Panhandle: (Effective July 8, 1931).

Gray County: Below 35 gravity 13 cents with differential of 1 cent for each degree to 40 and above. Top price 19 cents a barrel.

Carson and Hutchinson Counties: (Effective July 8, 1931). Below 35 gravity 11 cents with differential of 1 cent for each degree to 40 and above. Top price 17 cents a barrel.

East Texas: No official posting.

West Texas and New Mexico: (Effective July 8, 1931).

Winkler and Pecos County crude: Flat price of 10 cents a barrel. Lea County, New Mexico: 10 cents a barrel. Crane-Upton, Crockett, Ector, Howard and Glasscock County crude: 10 cents a barrel.

Southwest Texas: (Effective July 8, 1931). Refugio Heavy oil: 35 cents a barrel. Refugio Light oil: Below 25 gravity 31 cents with differential of 1 cent for each degree to 35 and above. Top price 42 cents a barrel.

Mirando: 44 cents; Salt Flat: 20 cents; Darst Creek: 20 cents; Pettus: 35 cents.

Gulf Coast: (Effective July 8, 1931). Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble: Below 25 gravity 31 cents with differential of 1 cent for each degree to 35 gravity and above. Top price 42 cents.

Markham crude: 25 cents a barrel.

North Louisiana and Arkansas: (Effective July 11, 1931). Caddo, Homer, Haynesville, Bull Bayou, Sabine, Crichton, DeSoto, El Dorado, Cotton Valley, Sarepta, Carterville: Below 29 gravity 10 cents with differential of 1 cent for each degree beginning with 29 gravity and ending with 40 and above. Top price 22 cents a barrel.

Smackover crude: 37 cents; Urbana 10 cents.

Rocky Mountain States: (Effective July 10, 1931).

Salt Creek: Same as Mid-Continent gravity scale; from 10 cents to 22 cents a barrel.

Elk Basin and Grass Creek: 47 cents; Big Muddy: 25 cents; Lance Creek: 60 cents; Rock Creek: 30 cents; Sunburst: 70 cents; Mule Creek: $1.05; Rex Lake: 95 cents; Osage: 35 cents; Cat Creek: $1.10; Pondera: $1.30; Hogback, New Mexico: $1.25.

Eastern States: (Effective July 11, 1931). Lima: 55 cents; Indiana: 20 cents; Illinois: 40 cents; Princeton: 40 cents; Wooster: 58 cents; Western Kentucky: 35 cents.

Pennsylvania: (Effective July 11, 1931). Bradford District: $1.60; National Transit oil: $1.35; Southwest Pennsylvania Pipe Line oil: $1.20; Eureka Pipe Line oil: $1.10; Buckeye Pipe Line oil: 95 cents; Corning crude: 50 cents.

Michigan: (Effective July 11, 1931). Midland: 37 cents a barrel. Muskegon: Same posting as Mid-Continent gravity scale: 10 cents to 22 cents a barrel.

Canada: (Effective July 13, 1931). Petrolia: $1.40; Oil Springs: $1.47.

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The Weeks News
(*Continued from page* 16)

within six months. The court may, at its discretion, increase or decrease the amount of this bond. If the order be upheld in the trial court, it must be obeyed pending appeal and decision, unless a supersedeas bond is filed. The commission may enter suit and procure injunctions against violators, either in the courts of Travis County, or the county in which the violation takes place.

After an order has been validated by the trial court, the commission may request the court to appoint receivers for subsequent violators, which receiver shall not be discharged until the violator has shown that he has not wilfullly disregarded the order, or for other good cause. The court may require the alleged violator to give bond before the receiver is discharged.

Producers of crude oil or natural gas in excess of commission allowable under any order, may be forced, after the validation of the order, to reduce his further production to equal the excess that he has taken, but such reduction "shall be so ordered as not to produce waste." The production of each property must be in such manner as to prevent waste on adjoining properties, or in the pool as a whole. The purchase, transportation or handling of crude oil or natural gas from any property in excess of the allowable established by the commission is prohibited.

Laboratory Data Regarding Repressuring and Total Recovery
(*Continued from page* 18)

last recovery was so badly emulsified by the combined effects of the air, silt, water, and soda solution that it could not be measured accurately. However, it was estimated at 10 cubic centimeters. Thus, by using all four methods of recovery, 62.4 per cent of the original oil was recovered.

The block was then split open with a chisel, so as to examine the sandstone. The middle of the block, and especially that part surrounding the "producing well" had given up most of the oil obtained. The cornors of the block and the "tight" or shaly streaks still contained appreciable amounts of oil.

Conclusions

Low pressures produce the best results when repressuring. The sandstone blocks used in these experiments—and quite possibly most oil sands in general—are simply "blowing machines" when too high input pressures are used. The correct pressure, of course, must be determined by experimenting with the various types of reservoir rocks, because it will vary with the thickness and coarseness of the sand, the viscosity of the oil, the temperature in the sand, the character of the cementing material, and the amount of tight, shaly, or hard streaks or channels present.

The per cent of recovery is higher when wells are closely spaced. This factor, of course, must be weighed against the cost of drilling the wells.

Small reservoirs are more completely drained at equivalent pressures than are the large ones. However, the thickness of the sand is a factor to be considered, as the per cent of recovery usually runs high in thin sands.

Sands that are uniform in character and are devoid of channels and fracture planes should respond to "flooding" after repressuring has ceased to be profitable.

While sodium bicarbonate is an efficient and comparatively cheap reagent to use to assist in cutting the oil loose from the sand grains, it is doubtful if it can ever be used in combination with repressuring, because of its apparent tendency to increase emulsions troubles if the oil-water-soda mix is agitated very much.

Finally, if only 47 to 57 per cent of the original oil contained in a reservoir can be recovered under what may be termed ideal conditions, it must logically be concluded that the total recovery on the average oil field property that is repressured will be less than this amount.

Plan Common Carrier Line From East Texas to Houston

Dallas, Texas.—Construction of a common carrier crude line from East Texas to tanker terminals at Norsworthy, on the Houston ship channel, near Houston, will be started promptly by Texas-Independent Pipe Line Company (Delaware) as result of consummation of long-time contracts with a group of independent companies and operators in East Texas during the past week. The line will provide facilities for the handling of 40,000 barrels of crude daily for the above group on a common carrier basis at a flat rate of 20 cents per barrel, exclusive of field gathering charges and tanker loading fees.

An order has been awarded Spang, Chalfant & Company, Inc., to supply 210 miles of 10-inch butt weld steel pipe, which is scheduled to begin arriving early in August, while contracts were scheduled to be given early this week for the equipping of five main line stations. These stations will be equipped with three motor driven centrifugal pumping units, any two of which will equal the maximum capacity of the line.

Five field surveying crews began work early this week at scattered points along the pipe line route, which had previously been picked from an aerial survey. Myers, Noyes & Forrest, Dallas engineers, have contracted to make this survey. A party of right-of-way buyers are to follow these surveyors.

A sub-contract has been awarded Williams Bros., Inc., to build the pipe line, erection of the pump stations will probably be performed by a major supply company.

Six 80,000-barrel steel storage tanks will be erected on the J. C. Bumpass 25-acre lease of Pilot Oil Company in the W. H. Castleberry Survey, Gregg County, or north of Camps, as this site is also to be the location of the first station on the trunk line.

The line will terminate at American Petroleum Company (American Republics Corporation's) tank farm and deep water terminals at Norsworthy. The 18 55,000-barrel steel tanks now available at Norsworthy terminals will serve shippers on Texas-Independent Pipe Line Company, but more storage may be added later.

Shamrock Oil & Gas Company of Amarillo and Pittsburgh, is sponsoring the above pipe line project with the aid of Eastern interests. William C. Fownes, Jr., Pittsburgh, is chairman of the board of the latter company, and J. B. Orr, also of Pittsburgh, is treasurer. John J. Sheerin, president of Shamrock Oil & Gas Company, has been directly in charge lining up shippers for the line, with temporary offices in the Adolphus Hotel, Dallas.

Among the East Texas producing companies that are reported to have booked a specific amount of space in the trunk line over a long period are: American Petroleum Company, Pilot Oil Company, Houston Oil Company, Lucey Petroleum Company, Crown Central Petroleum Corporation and British-American Oil Producing Company. The latter will consign its oil upon delivery to Norsworthy via tankers to affiliated refining interests in Canada, while the balance of the shippers listed, except Lucey Petroleum Company, own or are affiliated with refining interests reached by tankers in Texas and Louisiana.

Texas "Conservation" Legislature Probes Oil Industry

By R. W. BYRAM
Staff Correspondent

AUSTIN, Texas.—R. R. Penn, vice-president for production, the American Petroleum Institute, told the Texas legislature, Tuesday, July 21, that the greed and haste of independent producers and not price-fixing of major oil companies had caused the price collapse in East Texas. Mr. Penn pointed out that he was surprised that a political body like the Texas Railroad Commission had administered proration as efficiently as it had. Mr. Penn's testimony marked the conclusion of the third day of investigation of the oil industry's activities in the state.

In the meantime the Senate passed the resolution of the committee on state affairs to conduct its own investigation into the oil industry, which starts immediately.

Mr. Penn's testimony consisted of technical information on oil operations mostly in East Texas, at whose door he laid the present low price of oil. He pointed out that overproduction and the resulting low price in the pool is causing a loss in profits to the people of Texas of $1,250,000,000, as only $250,000,000 profit will be made from the pool under present methods of operation. "Loss in state taxes resulting from disorderly production of this pool will be $200,000,000. It is costing the business of Texas $600,000 per day, and the United States $2,000,000 per day."

Mr. Penn endorsed the bill of the oil emergency committee and recommended the passage of a bill to prorate every field as it came in. He compared the waste in the Yates and Winkler fields, pointing to the operation in Yates as ideal. The common purchaser act should be strengthened to insure ratable takings, ratable transportation and ratable purchases, he added. He also recommended the passage of a bill to permit but not enforce the unitization of any field at the will of the operators. All these features, he said, will lead to a stabilization of the market which will benefit the industry and the country as a whole, as the oil companies and the workers of the industry have been most successful operating under a stable market.

Mr. Penn filed a schedule of income and expense of the central proration committee with the legislative committee.

Led by a steering committee consisting of Representatives Baily Hardy, Harry Graves, Lee Satterwhite, Walter Beck and Earl Adams, the Texas legislature on Saturday, July 18, began its investigation into the oil industry by hearing testimony from Commissioners C. V. Terrell and Lon A. Smith, and R. D. Parker, chief supervisor of oil and gas.

Mr. Terrell explained, in reply to questions, that the present proration orders have been issued to prevent physical waste in the oil fields of Texas, and that the last East Texas order was based on the market demand and a compromise with violators. This order called for 250,000 barrels per day, but Mr. Terrell said that he thought that it should have been 125,000 barrels for the first 15 days, and 150,000 barrels for the remainder of the month.

In setting the allowables, Mr. Terrell continued, the central advisory committee has made recommendations to the railroad commission and furnished them with nominations from prospective purchasers in the various fields. From this data and the testimony received in hearings, the commission has determined the allowable named in the orders. The commission has 11 umpires in charge of the proration orders of the prorated pools. These men have worked for various operators in the past, and while the commission has no written rule against their working for other employers at the present time, the work requires full time and an umpire would be discharged if the commission had knowledge that he is working for another.

Mr. Terrell explained that the commission has changed from the potential to the unit plan of proration in East Texas to clear up violations, but the plan has been unsuccessful. The same parties, practically, continue to violate the order. The Attorney General has been called on to enforce the orders and he has done his best to do so. The 17 deputy supervisors in charge of various districts of the state have no time to do more than enforce the commission orders against waste other than those contained in the proration orders.

Commissioner Lon A. Smith testified that the commission had sufficient time to take care of the oil work. He stated that R. D. Parker worked out the proration programs and wrote the orders which the commission, after conference and suitable changes, signed. In his opinion the law of supply and demand does not control price in the oil business at the present time. However, there is more storage now, according to Mr. Smith, than there was a year ago, and the consumption has decreased. Compliance with proration orders at the present time is almost entirely voluntary and most of the violations have come from the small independents.

Representative Jack Kellar of Dallas charged that the umpires are paid by vouchers from the major oil companies. Mr. Smith said that he had no knowledge of this or of the existence of a monopoly to control price.

Parker Explains Workings

R. D. Parker, chief supervisor of oil and gas, the third witness, explained a great deal of the technical operation of the oil industry with relation to proration, and answered numerous questions concerning the drilling, spacing and operation of wells. In reply to questions concerning the common purchaser law, he stated that the law had three defects: it does not include all common carriers, as there is no control of railway shipments; the law is very difficult to administer; and some large concerns, while their pipe line system is vast, produce all the oil they can use, do not purchase oil, and therefore claim that they are not common carriers.

Mr. Parker suggested the limiting of one well to 10 acres as a prevention of waste. In his opinion the low price is due to over-production in East Texas. He also stated that an oil-gas ratio law was practical, if the setting of the ratio was left to the discretion of the commission.

Testimony of Mr. Parker continued on Monday, July 20. He explained that the first East Texas order called for an allowable of 90,000 barrels, which was later raised to 160,000 barrels. The present order calls for 250,000 barrels. Mr. Parker testified that the last order was written by R. E. Hardwick, legal adviser to the central proration committee, and that after a conference with Captain J. F. Lucey, chairman of the East Texas arbitration committee, and Attorney General Fred Upchurch, the commission made such changes as were

(*Continued on page 52*)

Personal Mention—Men You Know

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Blaine Johnston, recently was appointed to fill the vacancy caused by the resignation of W. L. Todd, vice-president and general manager, Simms Oil Company. His new position is a promotion from district superintendent over drilling and production in the East Texas, Louisiana and Arkansas territory. Johnston's oil country career dates back to 1901 when he went from North Texas in a covered wagon to Spindle Top to begin roughnecking.

BLAINE JOHNSTON

He has drilled in nearly every field in the Gulf Coast, Southwest Texas, Louisiana and Arkansas in the old days and has superintended drilling and production for more than a decade. Johnston was succeeded by R. W. Taylor as district superintendent in his former territory.

Alfred L. Marsten, president of Mohawk Petroleum Company of California, has been elected president of Independent Petroleum Association of California, to fill the vacancy created by the resignation of A. T. Jergins of Long Beach.

G. W. Swindell, for several years secretary and manager of the Chamber of Mines and Oil and formerly a newspaper man of Bakersfield, California, has been appointed publicity director for Oil Producers' Sales Agency of Los Angeles.

H. T. Webb, formerly manager of lands and leasing for The Texas Company (California), has been made assistant to C. E. Olmsted, vice-president and general manager.

E. B. Reeser, president of American Petroleum Institute and head of Barnsdall Oil Company, has been visiting in California.

C. E. Harris, Arkansas conservation agent, has returned to Texarkana to reopen an office for the oil and gas division there. This office was closed July 1 and Mr. Harris sent to El Dorado, in connection with the abandoning of many wells in the Smackover and El Dorado districts.

E. W. Pauley, president of the Petrol Company has been appointed federal receiver in equity for the Hercules Refining Company of California.

C. B. Clement, The Texas Company, Wichita Falls, Texas, has been elected chairman of the Wichita Falls Chapter of the American Petroleum Institute's division of production. He succeeds Frank M. Stauffer, of Panhandle Refining Company. O. P. Brotherin, The Texas Company, has been elected vice-president, and Jo Cable, consulting engineer, is the new secretary.

Chas. Denny, 63, Dallas operator who was one of the pioneer developers of shallow oil production in Irion County section of West Texas, was fatally injured in an automobile accident near the field July 12. The body was shipped to Pittsburgh for burial.

Jack H. Watt, who formerly was in charge of the land department in East Texas for Lion Oil Refining Company, is now associated with Foster & Jeffries, pioneer producers in East Texas, in the same capacity, with headquarters at Tyler, Texas.

Professor R. T. Chamberlin of the University of Chicago, Professor Walter H. Bucher of the University of Cincinnati, Dr. W. T. Thom, Jr., of Princeton University, and Lee Welsh Billings, Montana, geologist, composed a geologists' party which toured Wyoming this month checking localities which offer interesting places for field study of the processes by which mountain building takes place.

W. R. Guiberson, at the head of Guiberson Corporation, Dallas, Texas, oil well specialty plant, accompanied by Mrs. Guiberson and their daughter, motored through Wyoming and the Yellowstone National Park last week en route to the Flatrock Club on Snake River in Idaho, where they will spend a vacation fishing trout and salmon. While stopping in Casper he told of his company's new Diesel type engine for airplanes and explained its many interesting features. The engine will develop more power, run on less fuel, and is much simplier in design than the engine now in general use.

O. H. Collins of New York City, general manager of Chicago Pneumatic Tool Company's oil tool division, and J. M. Melveny of Calgary, Alberta, manager of the Canadian division for oil tool supplies, were in Casper, Wyoming, last week on a survey of oil and gas drilling activities in the Rocky Mountain states.

Colonel T. H. Barton, president, Lion Oil Refining Company, is convalescing after a recent operation for appendicitis performed at St. Paul's Sanitarium at Dallas.

Harry F. Sinclair, head of Sinclair Consolidated Oil Corporation, has been inspecting properties of Rio Grande Oil Company in California, with a view of taking over the company if satisfactory arrangements can be made.

R. J. Eiche, oil field representative of American Steel Export Company, Inc., New York, has returned to the United States after spending 14 months in the South American fields for his company.

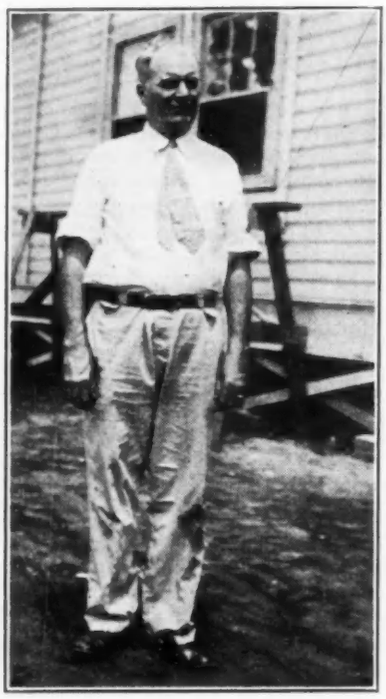
M. D. Carlton, Reed Roller Bit Company salesman, has been transferred from the Houston territory to Longview to join the company's East Texas sales force.

Marvon G. Ross, formerly district representative for the T. T. Word Supply Company at Beaumont, has been appointed general sales manager for the

M. G. Ross

company. Ross came over to the T. T. Word Supply Company when it was first organized, having been associated with Lucey Manufacturing Corporation of Texas. Prior to going to Lucey, Ross had charge of sales for the North Texas Supply Company at Fort Worth. W. S. Shaw succeeds Mr. Ross in the Beaumont district, and will also handle the Lake Charles district.

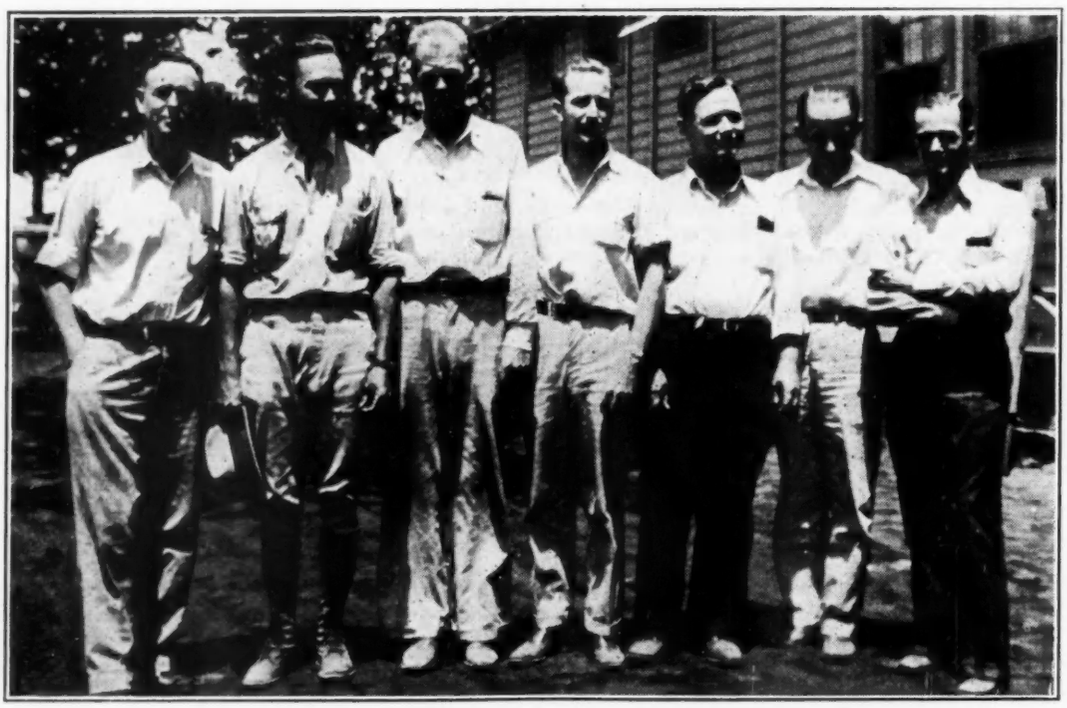
"SHOTS FROM THE HOT SPOT"



T. F. Brown, who left the U. S. Bureau of Mines three years to train field men of Gulf Production Company, during which time the Gulf's accident rate has been lowered 26½ per cent.

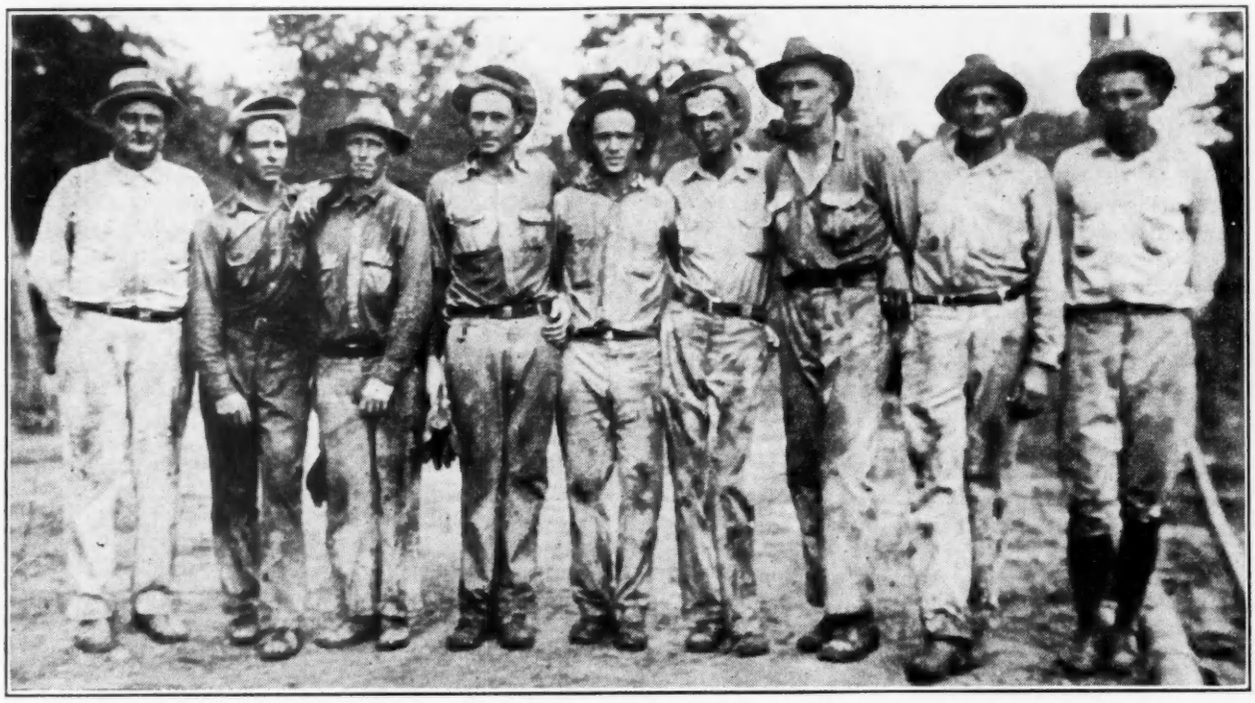
G. L. Blaxton, Shreveport district manager for Lucey Products Corporation, of Tulsa, is spending most of his time with the East Texas force of the company.

O. J. Rinebarger, left, and Roy Caldwell, back from several years in Foreign fields, are looking East Texas over. Rinebarger spent 2½ years in Sumatra as drilling superintendent for De Bataafsche Petroleum Maatschappij in the Panklan Brandan Administration. He drilled the discovery well at Signal Hill, California, in 1921. Caldwell was a driller for North Venezuela Petroleum at Puerta Cabello for two years.

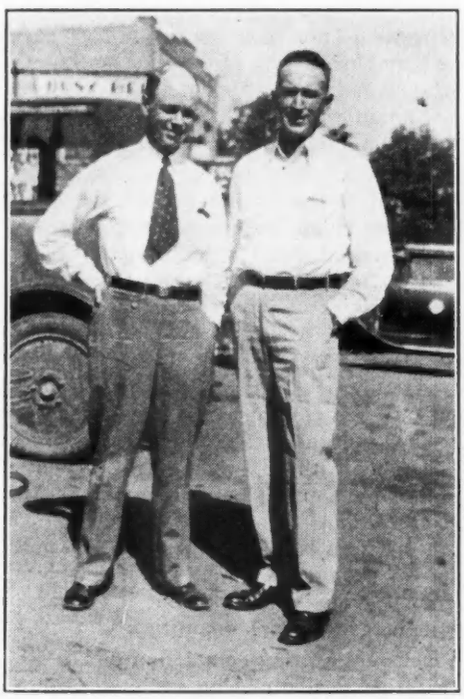


Gulf Production Company crowd in the Lathrop field. Left to right they are: J. W. Wharton, warehouseman; C. H. Duffy, production foreman, Longview district; H. F. Whalers, truck foreman; P. G. Carlson, and J. V. Rogers, warehouse clerks, Willow Springs; P. D. Ferguson, production clerk; and Truman Branton, store keeper at Willow Springs.

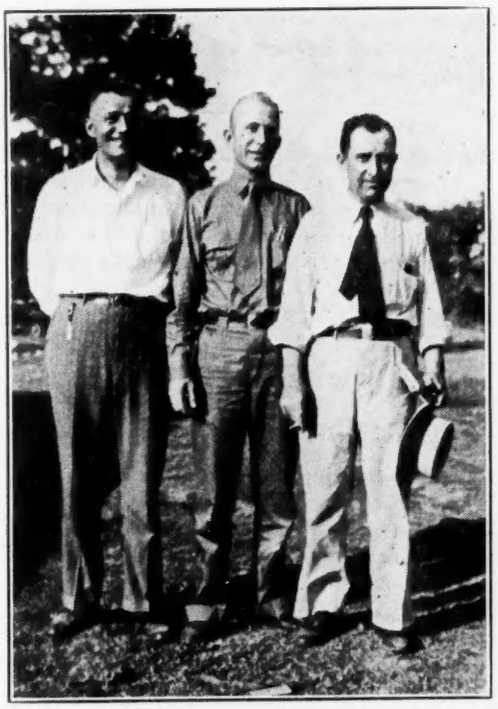
A Photographic Record of Who's Where in East Texas



J. P. West and his Gulf Pipe Line Company connection crew lined up just prior to entering the 173-foot tunnel at the Bell Graddy burning well 1½ miles west of Kilgore. Left to right they are: J. P. West, Ad Adams, Dell Hamilton, Floyd Andrews, Paul Wimer, Havre Compston, Truman Pearson, Bill Irvin and John Parrish.



L. C. Rhoads, Cooper-Bessemer Company sales engineer out of Dallas, (left) is devoting considerable time now with Gene Nutt (right) another Cooper-Bessemer sales engineer, who is in charge of the company's store opened recently at Willow Springs.



S. P. Brown, sales manager, Hughes Tool Company, Houston; B. C. Connell, president of Peco Supply Company, and R. L. Long, Hughes Tool Company salesman in East Texas, out of Longview.

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

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Second North Belridge Well Shows Better Than the First

Bakersfield, Calif.—Belridge Oil Company has completed No. 8-35, its second producer in the North Belridge field, with an initial production of 4300 barrels of 40 gravity oil from 5416 feet. The 10¾-inch shutoff over the Temblor formation was made at 4916 feet and less trouble experienced in completion than with the original producer. The well started flowing ahead of time and before the hole was cleaned thoroughly, but the flow soon cleaned up and the cut at the end of 24 hours was only one-tenth of one per cent. Gas production was about 15,000,000 cubic feet, giving the well a much better gas-oil ratio than the discovery well. Four 1½-inch beams were used during the initial test. This completion helps to define the producing trend of the deep zone, although it was expected to make an oil well, at the very least.

Continental Oil Company is swabbing to complete Result 2, which was drilled to 5253 feet. The well is flowing by heads at the rate of 3000 barrels, but a somewhat smaller initial production is expected. The fluid shows a cut of about four per cent, of which the greater part is drilling mud.

Standard Oil Company of California is swabbing McPhail 2, but the well is showing very little oil. Drilled to 5671 feet, this test has been disappointing in some respects. Pressures have been lower than expected at this location. A string of 11¾-inch casing was cemented at 5470 feet, or at a much greater depth than in the best producers.

Developments still point to a narrow producing district in the deep zone, but the field should become a factor in light oil production.

Santa Barbara, Calif.—Barnsdall Oil Company and Rio Grande Oil Company are making a water shutoff test in Bishop-Evans 1, an outpost test near the Elwood field which is testing the Sespe formation. A string of 8⅝-inch casing was cemented at 5932 feet and a bailing test will be made.

Huntington Beach Most Interesting Basin Area

Los Angeles.—Huntington Beach continues to be the most interesting field in the Los Angeles basin from the standpoint of deep development, besides being the only threat in the entire district at this time. If any one of several efforts to complete a deep well proves successful, a deep drilling campaign of major proportions should be expected. Despite unfavorable conditions, unemployment and the desire of several operators in the field are enough to guarantee action upon the completion of a good well.

W. E. McCaslin is coring a hard shale at 8310 feet in Transport 1, deepest well yet drilled in the field, and will run a string of three-inch casing for a production test within the next 100 feet. A very small hole has been drilled, due to the cementing of 4¾-inch casing below 7000 feet. The formation below 8000 feet has shown a distinct cut and the oil appears to be much lighter than that produced in the upper zones. The most recent cores showed less oil than those taken around 8100 feet.

Superior Oil Company is coring hard shale and sand at 7469 feet in Gillette 7-2. The success of W. E. McCaslin's Transport 1 will largely determine the testing point in Gillette 7-2. This company has two more wells shut down at or below 7000 feet and is in a strong position.

Deep Test on Middle Dome Holds Operators' Attention

Coalinga, Calif.—Progress of Petroleum Securities Company's Burbank 1, deepest test now drilling on the Middle Dome at Kettleman Hills, is being watched closely, the outcome of this well to determine the course to be taken by several operators holding acreage in the immediate sector. Drilling was stopped in brown shale at 7330 feet and the hole has been reamed preparatory to cementing a string of casing over the Temblor zone. The 8⅝-inch casing is now being run, with the objective formation expected within 50 feet. Top of the Bentonite marker was found at 7272 feet and the Temblor should be found above 7350 feet. On the North Dome, casing has been cemented before drilling into the producing formation. The short break between the shoe of the shut-off string and the top of the Temblor has caused no trouble in the principal producing section of the field. Geologists do not agree on the prospects for production in the Temblor on the Middle Dome, but this part of the field should be reasonably productive. The top of the zone may contain water, as has been the case in at least one edge test on the North Dome, and prove productive at greater levels.

Completion of a good producer on the Middle Dome would be an important development from several angles, but the fact that no definite curtailment agreement is in effect would be felt immediately. At least two companies that do not have extensive acreage on the North Dome have holdings on the Middle Dome and might not hesitate to develop these tracts. Standard Oil Company of California is offsetting Petroleum Securities Company's Burbank 1, but may not continue until something more definite is known of the deeper test. The former company's No. 6-29V is standing with 13⅜-inch casing cemented at 5460 feet. The Middle Dome should not embrace much more than 3000 acres, and may prove productive over an even smaller area. There is also the distinct possibility that it will not prove productive at all in the Temblor zone, although from a geological standpoint it appears to contain oil and gas in commercial quantities.

Several wells are nearing completion on the North Dome, and new locations are not being made at a consistent rate. Field operations should show a steady decline, but developments both outside and within the field will affect the future course of operators. Kettleman North Dome Association and Standard Oil Company of California are anxious

to taper off on field work, but certain fee operators are pushing operations with offsets which may require additional activity.

Kettleman North Dome Association is preparing to complete Getty 8-6Q, which was drilled to 8026 feet. This test is well located and should make a good producer. Associated Oil Company will drill to around 8600 feet before attempting to complete Whepley 2, an offset to the original producer on this tract. The nine-inch Temblor shutoff was made at 7073 feet and the well will be produced from a great thickness below the perforation point of the oil string. Standard Oil Company will soon complete No. 34-29J, an offset to Superior Oil Company's Huffman producers, after drilling to 8472 feet and cementing through perforations to produce from more than 1300 feet of zone.

Superior Oil Company has reached 6250 feet in Huffman 3, which has broken all speed records for the field. Spudded in on May 26, 1931, it has reached its present depth in less time than many other wells spent in drilling to 4000 feet. The 13⅜-inch water shutoff at 5856 feet was approved and the next stopping point should be just short of the Temblor formation.

Shell Oil Company's Dixon 1, which was completed three weeks ago with an initial production of 6000 barrels, is still flowing 5400 barrels of clean oil. This completion changed the valuation of several leases and proved an additional territory of considerable size. With a gas production of only 3,700,000 cubic feet, Dixon 1 is crowding the best previous gas-oil ratio record. The gasoline content is above three gallons per thousand cubic feet and much richer than some of the best inside producers. This well indicates that the structure at the surface may lie slightly west of the true vertical necessary to get best results, this conclusion giving the edge leases on the east a better chance than those on the west slope.

Completions on the east and northwest slopes point to a larger productive acreage than the inside lines of a year ago showed. The plunge at the surface is very plain on the northwest tip, but a large production near this extremity placed a new valuation on many tracts. Some of the edge wells have done better than inside producers, besides having shown more favorable gas-oil ratios. Average initial production of the recent inside completions has been below the average expected, but no failures have been recorded.

Killing of Kettleman North Dome Association's Milham-Elliott 1, discovery well, was accomplished with ease and probably fell short of the spectacular task expected by many.

Wildcat Test of Swampy Area Near Goleta Planned

Santa Barbara, Calif.—Ohio Oil Company is considering drilling a wildcat test in the swampy district near Goleta and a short distance northwest of activity on the More ranch. Location has not been made, but work may be started as soon as arrangements are completed. The acreage is roughly in line with Elwood development, but bears little connection to the field. General Petroleum Corporation has drilled three wells on the More ranch and has developed a good supply of dry gas around 5000 feet.

Bolsa Chica Oil Corporation recently drilled an ocean test off Coal Oil Point and fell just short of obtaining commercial production. This well bears no direct connection to the acreage held by Ohio Oil Company, but it is in the same general area.

Several wells have been drilled between the proposed location and production at Elwood. Geologically, the district could produce either gas or oil.

Revival of Wildcat Activity In Bakersfield Area Unlikely

Bakersfield, Calif.—Bakersfield, which has long been the center of wildcatting for Kern County and the bordering portions of at least two other counties, does not look for a sharp revival of activity until production problems in the larger settled fields are settled.

It was not unusual a few years ago for two or three districts to be claiming attention at one time, and seldom was Kern County without a well which was "about" to usher in a new oil field. Many of these wells did open up good fields, and there are undoubtedly many small fields which will be found during the next cycle of development.

Such districts as Union Avenue, Fruitvale, Weed Patch, Edison, Round Mountain and Mt. Poso were regarded as very doubtful at one time, but some of these districts developed into good producing areas.

Standard Oil Company has obtained a fair production from Alferitz 1, a test near the Devil's Den field, but this discovery does not appear especially important, except to indicate that production may be obtained elsewhere below the Temblor formation.

The east side of the San Joaquin valley, which produces mostly heavy crudes has only a few active wildcat tests. A few scattering tests are under way along the west side, but none is outstanding.

Expected Deep Drilling at Ventura Fails to Materialize

Ventura, Calif.—Completion a few months ago of Associated Oil Company's Lloyd 57 at 8823 feet failed to stimulate deep drilling in the Ventura Avenue field.

Commercially the deepest producing well in California and second deepest in the world, this completion should have started intense activity in various townlot fields. Ventura Avenue is largely controlled by Shell Oil Company and Associated Oil Company and no rivalry for record deep production has existed between the two operators.

One of the unusual facts of Lloyd 57 was that it started and ended in the lower Pliocene. Just how much thicker the Pliocene will prove to be is questionable, but the Miocene should be found within a reasonable distance below 9000 feet. Pacific Western Oil Company is deepening Orton 7 at 6300 feet, after starting at 5590 feet. This well may develop into a deep test. Shell Oil Company has been content to develop the favorite producing levels of the field and has even had success with the 4000-5000-foot zone which supposedly contained chiefly water on certain leases.

Rincon Wildcat Closed Down; Production Tests Unsuccessful

Ventura, Calif.—Chanslor-Canfield Midway Oil Company has shut down Hobson A-2, Rincon wildcat which was drilled to 10,030 feet, following a series of unsuccessful production tests below 8000 feet. A final effort probably will be made to produce the well at about 7479 feet. A production of 300 barrels was obtained at this level on the compressor before deepening to the present record. Inclusion of extra formation failed to improve the flow, although streaks of oil sand cut below 7500 feet warranted more zone.

Another interesting deep test for California is Graham-Loftus Oil Company's No. 1, a wildcat in the Olinda district which will be deepened from 9080 feet. A string of 5¾-inch casing was cemented at some point below 9000 feet.

Oklahoma--Kansas Field Notes

FLOYD SWINDELL, ***Staff Representative, Tulsa, Oklahoma***

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Rice County Records Another Discovery Well at 3280 Feet

Wichita, Kansas.—Rice County, which has figured prominently in Kansas oil news for the past year or so, came into the spotlight last week with another apparent discovery well when Deitrick and Langston's Purcell 1, NWc Section 33-19s-9w, hit top of the Siliceous lime at 3280 feet and had 2000 feet of oil standing in the hole while drilling at 3290 feet. The test is located about six miles northeast of the Schurr-Raymond pool and about four miles northeast of Cress et al's Sharpe 1, SE NE Section 13-20s-10w, which came in for an estimated 2000 barrels during the latter part of April, 1931. First interest in the area northeast of Schurr came in the early part of August, 1930, when Tatlock et al completed their Ploog 1, CSW SE Section 33-18s-9w. Top of the Siliceous lime was encountered at 3252 feet and the well closed in at an estimated 2000 to 5000 barrels initial. The next wildcat discovery came early in February, 1931, when Muth Brothers et al encountered top of the Siliceous lime at 3213 feet in their Byers 1, NE NW Section 21-19s-9w. It was completed for an unofficial gauge of 135 barrels at total depth of 3244 feet. Completion of the Purcell 1 would make the fourth wildcat discovery along a northeast-southwest line not more than 10 miles in length, all producing oil of 44 to 48 degrees A.P.I. gravity corrected. As yet none of these producers have connections and their exact importance is not known.

Ritz-Decker-Garrett Area

Lario Oil & Gas Company and Shell Petroleum Corporation had the largest completion of the week when their Miller 1, NE NE SE Section 24-19s-2w, came in for an initial gauge of 3256 barrels from Viola lime at 3394 to 3405 feet. It is a south offset to Maddison and Shell's Hale 1 which swabbed 2714 barrels on its initial test May 28, 1931.

Reynolds and Unruh's Koehn 1, SE NW SW Section 36-19s-2w, logged Viola lime from 3390 to 3400 feet and shot at 3394 to 3397 feet. Its potential was placed at only 410 barrels. Failure of this test to find commercial production in the chat came as a surprise since wells to the south have been producing from that formation and Dickey Oil Company's Eva Decker 1, one location south and three west is the largest well in the pool from that formation.

McPherson Oil & Gas Development Company's Salthouse 2, NE NE SE Section 15-19s-2w, one of the highest oil producers on the Decker structure, is flowing 25 barrels daily through a choke from chat at 2912 to 2969 feet. The same operator's Griffin 2, CSW NW Section 14-19s-2w, is also pinched to 25 barrels daily from chat at 2899 to 2951 feet. It is structurally the highest well to encounter oil in commercial quantities on the Decker gas structure. Neither well has had a potential gauge. Lario Oil & Gas Company's Wiggers 2, NW NW NE Section 36-19s-2w, was standing full of oil when one foot in the lime pay at 3387 feet.

Ellsworth County

Ellsworth County's third wildcat discovery was shut in last week when Gypsy Oil Company and Tom Palmer completed their Stoddenberg 1, CSW Section 22-16s-10w. After drilling Siliceous lime from 3333 to 3347 feet it was estimated at 2400 barrels initial and shut in without actual gauge. Wells in this area are with connections and few have erected sufficient storage to take care of 24-hour gauge. Initial signs mark this well as one of the most important completions in the county.

Greenwood County

Phillips Petroleum Company's Beal 7, SEc NE Section 28-23s-11e, is estimated at 400 barrels initial after shooting with 250 quarts in sand at 1893 to 1954 feet; total depth is 1959 feet.

Tatums Continues to Lead Development in Oklahoma

Ardmore, Oklahoma.—The Tatums pool refuses to pass entirely out of the picture and continues to hold the title of southern Oklahoma leader although it has only four active locations. At the end of the past week Magnolia Petroleum Company was ready to start drilling at its Mose Dickerson 5, CNE SE Section 24-1s-3w, Carter Oil Company and the Cox-Hamon interests were drilling below 1200 feet in their Spraggins 1, NW SW Section 19-1s-2w, Carter Oil Company was building derrick for its Wirt Franklin 4, CNE NE NE Section 24-1s-3w, and the K. D. Oil Company and Frank Gouin were drilling below 1000 feet in their M. E. Burton 1, CS½ NW Section 30-1s-2w. Three of the locations are in the eastern portion of the extension and one more than half a mile south of production.

Northeast of Marietta

Batson, Starritt and Autry were coring hard lime and sand at 1015 feet in their Dr. Autry 2, SW NE Section 27-6s-2e, Love County wildcat test about six miles northeast of Marietta.

D. B. Malernee has resumed drilling after being shut down for water at his Wacker 1, NWc SE Section 24-2n-2w, Garvin County wildcat near the town of Elmore. Latest reports show the well drilling below 4875 feet after being shut down at 4803 feet for several weeks.

West of Healdton

Monarch Petroleum Corporation is still shut down at its Gregg 1, SWc Section 36-3s-4w, approximately one mile west of production in the old Healdton field of Carter County; total depth is 3930 feet, considerably below the depth at which Viola or Arbuckle lime would be expected on the basis of the Healdton section. As recently suggested in these columns, this test may be on the southwest and downthrow side of a suspected fault which would place these formations considerably deeper than they were encountered on top of the Healdton structure. Drillers are now awaiting orders from the St. Louis office. The test will likely be abandoned.

Despite the active campaign of companies to reduce rentals and clear their records of all leases not having good possibilities, there have been a number of important transactions in southern Oklahoma during the past few weeks. Roy M. Johnson has assigned to Carter Oil Company a block consisting of 32 leases in 3s-2w, near the old Wheeler pool in Carter County; Fuhrman Petroleum Company has assigned to Mid-Kansas Oil & Gas Company a block of 73 leases in townships 4n-1w, 3n-2e, 2n-1w, 4n-3e, 3n-1e, 4n-2e, 2n-3e, and 3n-3e; and

D. S. Atler has assigned to D. B. Malernee the E½ E½ SW and NW SE and W½ SW SE Section 11-2n-2w.

Marshall County

Hearle, Hudson and Wilson are shut down for water at 602 feet in their Williams 1, SW SE Section 24-7s-5e. McCrory, McCrory and Frame are still shut down at their Whitworth 1, SW SE of the same section. Both tests are in the Kingston shallow area. Walter Neustadt of Ardmore is building a 70-barrel capacity lubricating oil refinery at Kingston and will utilize crude from the shallow area which is being developed. The plant should be ready to operate in about two weeks.

Withdraw 130,000 Barrels From Storage at Seminole

Seminole, Oklahoma.—Failure of purchasers to secure their requirements in the Oklahoma City pool resulted in storage withdrawals reported at more than 130,000 barrels during the past week in the Seminole district. During May, 1931, storage declined at the rate of about 2000 barrels daily but this fell off in June and the decline for the entire month was only 6600 barrels. Continued progress of the Oklahoma City shut-down movement probably will result in large withdrawals from Seminole storage which is practically all high priced oil and would not have been moved until the posted price is well above $1.00 per barrel.

Pure Oil Company completed drilling deeper in its Leah 3, CSW SW NE Section 11-7n-6e, in the central portion of the Little River pool. This well was originally completed on August 28, 1928, producing 310 barrels on gas lift from the upper Wilcox at 4300 to 4328 feet. Deepening operations revealed base of the Upper Wilcox at 4359 feet and the Lower Wilcox at 4370 to 4399 feet, from which it produced 502 barrels in 23 hours on the pump. During the past 18 months Carter Oil Company has deepened to the lower Wilcox its A. Moore 2, SW NE NW Section 11-7n-6e, and its Harjo 4, SE NW SW Section 13-7n-6e. Other wells which are now producing from this formation are Magnolia Petroleum Company's N. Dinay 3, NW SE NW Section 11-7n-6e; Producers and Refiners' A. Davis 4, NW SW NE Section 13-7n-6e; and Gypsy Oil Company's Hulhoke 1, NE NE SE Section 14-7n-6e. All are in the Little River pool. Operators have known for some time that small production could be obtained in spots from the Lower Wilcox but it was not an economic move until the upper producing horizons had been exhausted.

Carter Oil Company's Spillman 4, SWc Section 7-6n-8e, old Wilcox producer in the Sasakwa pool, was plugged back to 3000 feet, and the eight-inch casing ripped at 2810 to 2820 feet and 2845 to 2875 feet. At the latter depth a show of oil, gas and water was encountered. Further ripping at 2870 to 2875 feet and the well flowed 400 barrels the first 24 hours. This was on July 12 and on the three days following its production was 352 barrels, 330 barrels, and 119 barrels.

Five Completions Added In Oklahoma City Field

Oklahoma City.—Five new completions were added and two old producers were recompleted during the past week in the Oklahoma City pool. This brought the total number of completions to 805 since December 4, 1928, when Indian Territory Illuminating Oil Company completed the discovery well. T. B. Slick Estate's Terminal 2, CS½ NE SE NW Section 3-11n-3w, was the largest with an initial flow of 1785 barrels the first hour from Wilcox sand at 6313 to 6423 feet. Total depth is 6430 feet. Skelly Oil Company's Gibson 1, NW NW SW NE Section 10-11n-3w, topped the Wilcox at 6285 feet and drilled to 6451 feet where it gauged 2668 barrels in 1½ hours along with gas estimated at 45,000,000 cubic feet. Both wells were shut in shortly after cleaning and will remain shut in under the agreement into which both companies have entered. This was Slick Estate's last scheduled operation.

Wilcox Oil & Gas Company and Diffie's Terminal 1, SW NE SW NW Section 3-11n-3w, set six-inch casing at 6354 feet, one foot above the Wilcox sand and drilled to a total depth of 6485 feet, where it gauged 3281 barrels the first two hours along with 27,000,000 cubic feet of gas.

Indian Territory Illuminating Oil Company had the smallest completion of the week when its Stevens 1, NE NW SW SE Section 15-11n-3w, flowed 436 barrels in 3½ hours flowing by heads with 3,000,000 gas. In the northern portion of the pool the same operator completed M. K. and T. 1-B, CNE SW SE SE Section 34-12n-3w, at total depth of 6427 feet in Wilcox sand. After flowing 288 barrels in 10 minutes it started cutting out the flow beams and was shut in for repairs. Gas was estimated at 34,000,000 cubic feet.

Drastic Curtailment of Drilling Would Have Averted Market Crash

Tulsa.—Practically anyone who entertains an opinion on the present situation will agree that drastic curtailment of drilling would have done much to avert the market collapse and probably would have solved the whole problem. Low priced crude seems to be attaining a remarkable success where voluntary agreements have failed.

A review of Oklahoma drilling reports shows that only 79 wells are being drilled in the state and of this number over half are in the Oklahoma City pool. A summary by districts follows:

Sapulpa District—Including Okmulgee, Creek, Payne, Tulsa, Lincoln and Okfuskee Counties:
11 drilling wells
11 rigs, locations, and machines
37 shut down

Muskogee District—Including Rogers, Wagoner, Muskogee, Atoka, McIntosh, Pittsburgh, Haskell, Latimer, Le Flore and part of Okmulgee Counties:
14 drilling wells
8 rigs, locations, and machines
20 shut down

Oklahoma City District—Oklahoma City field only:
38 drilling wells
1 location
44 shut down

Shawnee District—Including Pottawatomie, Seminole and Hughes Counties:
3 drilling wells
3 locations, rigs
4 shut down

Lawton District—Including Roger Mills, Beckam, Washita, Canadian, Greer, Kiowa, Caddo, Grady, Stephens and Comanche Counties:
6 drilling wells
3 rigs, locations
18 shut down

Ardmore District—Including Carter, Love, Murray, Garvin and Jefferson Counties:
7 drilling wells
4 rigs, locations
16 shut down

Recapitulation:

Total for State—Drilling, 79; rigs, locations, etc., 30; shut down, 139.

Texas "Conservation" Legislature Probes Oil Industry

(*Continued from page 44*)

deemed advisable and issued the order. Mr. Parker, however, assumed full responsibility for the order.

The question of the control of the pipe lines by the railroad commission was taken up next. Mr. Parker testified that the commission has never fixed pipe line tariffs, but has allowed the companies to fix their own tariffs. Under the law, he explained, aggrieved parties may call for a hearing before the commission to demonstrate that the rates are too high, but this has occurred in only one instance since he has been supervisor, and that case has been postponed on the docket at the request of the protesting parties. Mr. Parker stated that he doubted that pipe line companies earn from 100 to 300 per cent, as was charged by Representative Harry Graves. Mr. Graves further charged that the commission has been negligent of its duty in regard to the fixing of pipe line rates, as they are authorized to do under Article 6037 of the statutes, and stated that he believed the rates on a line should decrease every year as the investment is amortized, and the high tariffs are one of the causes of the increase in imports. Mr. Parker agreed that a 10 per cent maximum allowance for depreciation should be sufficient.

In reply to a question, Mr. Parker stated that the commission had never attempted to enforce the pipe line law in the courts, preferring to seek the same end by negotiations, which had been accomplished successfully in both the Panhandle and East Texas where unconnected wells had been connected at the request and through negotiations of the commission. He stated that the commission feared a trial of this law in the courts, as both Attorney Generals Dewey Lawrences and Fred Upchurch were of the opinion that the constitutionality of the law was doubtful.

Continuing his testimony, Mr. Parker stated that what had been done with proration had been accomplished through negotiation. The present violations in East Texas are under the law, and he stated that in his mind this was the worst feature of the situation. He did not believe that any one company has control of the market in East Texas, as there are so many purchasers that this is impossible. He agreed, however, with Mr. Graves that the price in East Texas had little to do with the supply or demand for oil.

Mr. Graves argued that under Article 6039 of the statutes the commission could prevent the drilling of any well. Mr. Parker disagreed with him on this, stating that the commission could not prevent the drilling of any well which did not violate Rule 37 with regard to distance from lease lines.

Commissioner Pat M. Neff, who was to have been called to the stand, was at the bedside of his brother in San Angelo. It is doubtful if he will be present at the hearing until the end of the week.

"No Cost of Pipe Lines"

T. F. Hunter of Wichita Falls, president North Texas Oil and Gas Association, was the next witness called. Mr. Hunter stated that there was no expense involved in the construction of a pipe line, as the producers in the field paid for the line by reductions in the price of oil and other concessions made until such time as the line was paid out.

He stated that there were 600,000,000 barrels of storage in the United States at the present time. Prairie Oil & Gas Company, according to Mr. Hunter, has 60,000,000 barrels, and The Texas Company 28,000,000 barrels. Production at present for the United States is 2,400,000 barrels per day, and consumption 2,800,000 barrels, Mr. Hunter told the legislature. He stated that there has been no over-production for the past 18 months, and that there would be a shortage of oil at the present time, were it not for East Texas. Imports in 1930, he continued, amounted to 116,000,000 barrels, according to government statistics.

Mr. Hunter stated that representatives of major operators had told him, in conferences concerning the price in East Texas, that if that field were properly operated under some law that was enforceable, the price would rise at once. He cited the case of the recent rise of crude prices in California as an example of this. He stated that they insist on holding the supply under the demand. When this is accomplished, the price will be raised to prevent the running of oil from storage.

Mr. Hunter stated that Walter Teagle, president of Standard Oil Company of New Jersey, and Sir Henri Deterding, executive director of Shell, were both advocates of proration, and that in statements attributed to them which appeared in the press some two years ago, they stated that they believed that the day of the independent in the oil business was past. Mr. Hunter stated that circumstantial evidence led him to believe that the major companies are proceeding along a definite plan designed to eliminate the independent operator. He explained that the large potential figures which have been attributed to Yates, Hobbs, Oklahoma City and other similar fields, have been a definite part of this program, and that the potentials of these fields have been tremendously over-estimated for the purpose of discouraging the small operator, driving down the price of oil, and grabbing up the entire production end of the business. He suggested that E. V. Foran and David Donoghue be called to give the legislature an idea of the technical side of the business. He agreed, however, that proration was an ideal method of operation if properly administered.

Mr. Hunter recommended an oil board, possibly working under the present commission, consisting of three men, one lawyer, one petroleum engineer, one practical operator, to administer the conservation law, which should be passed first.

Mr. Hunter insisted that the economic side of the question must enter into the drafting of the bill, whether it is admitted or not. There are 330,000 marginal wells in the United States today producing 500,000 barrels of oil per day, which must be abandoned unless they are rescued, and that if the price does not rise and these are lost, physical waste is bound to occur as these wells will never produce again.

Mr. Hunter sees the present method of lease and license contract operation of filling stations as another effort on the part of the major operators to eliminate the independents by throttling their market. They control 95 per cent of the stations at the present time. This creates a monopoly that must be paid for by the public, he added.

He pointed out that the largest part of the producing acreage in East Texas was now controlled by the major operators, although at the time the field began they were almost excluded. He stated that they have reduced the price of oil until the independents have come begging to sell, and are disposing of their properties at five per cent of their value.

Mr. Graves stated that he has heard of oil being sold on contract in this field which call for an eight-cent rise in the price every time gasoline prices rise one cent. Mr. Hunter stated that this increase should be greater. He stated that the great advantage of administration by an oil board would be that they could determine the market demand without consulting the majors, which would prevent control of the industry by the latter.

Others scheduled to appear before the House investigation include: Ray Richmond; Ralph Homes, The Texas Company; W. S. Farish, Humble Oil & Refining Company; David Donoghue; and E. V. Foran.

East Central Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

Upturn in East Texas Crude Price May Follow New Demand

Tyler, Texas.—An upturn in the crude price situation in East Texas can be safely forecast to follow in the wake of the mounting demand for crude connections by major and independent buyers, who are now seeking to fortify themselves with an ample supply of crude over a long period in order to protect heavy investments in transportation facilities. It is quite evident that the general low price period for the district has passed now that actual trunk line facilities exceed current production, with four more 10-inch lines under construction to swell the total trunk line capacity to about 640,000 barrels daily. Ten local refineries now operating, and contracted tank car shipments of crude will materially add to the competition in store for the district, which passed the 400,000-barrel average daily mark during the past week.

Possibilities of the district being over-supplied with trunk lines, refineries and tank car racks is causing companies to hasten to fortify themselves with additional crude supplies even though production is steadily mounting to higher levels. Disregard of proration is becoming more general as facilities become available to handle the oil at less expense by pipe lines, and field storage is also being increased at a greater rate than at any time in the history of the field. Two tank farms, consisting of 12 80,000-barrel tanks for Texas Pipe Line Company and six 80,000-barrel tanks for Texas-Independent Pipe Line Company were authorized during the past week.

The only two companies that have maintained a minimum price schedule of 20 cents per barrel in making outside crude purchases and paying for royalty oil set the pace on taking on new connections during the past week. Magnolia Petroleum Company and Sun Oil Company obtained a popular response from producers in taking on connections, aggregating more than 100, during the past week as result of both having refused to go below 20 cents per barrel. In some instances they have been paying about 50 per cent less per barrel net to the producer for outside oil.

Magnolia Petroleum Company took on about 80 outside connections just prior to the completion of Magnolia Pipe Line Company's second trunk line outlet, a 12-inch carrier, late last week. This company started off picking its connections from large leases, but before the close of the week was also connecting to small leases also. Policy of Magnolia Petroleum Company in paying the highest price for East Texas crude at all times has reflected favorably in gasoline and lubricating oil sales in the general territory.

Sun Oil Company has taken on about 24 outside connections that will be served with lines as soon as pipe can be strung, and will arrange to ship this crude to the coast through facilities of other carriers, or divert the oil to storage until Sun Pipe Line Company's 10-inch trunk line is completed about August 15. Sun Oil Company withdrew its official posting on East Texas crude July 8, but has retained its old price of 20 cents per barrel minimum at all times. No contracts are being made with producers for any designated period, but the latter are being asked to maintain connections for at least six months so as to justify the expense of making the pipe line hookup. Sun Oil Company has withdrawn as an active solicitor of crude connections after taking on the above group, but will continue to accept conveniently located and desirable connections.

Liberty Pipe Line Company joined the ranks of those soliciting connections about the time of completion of its eight-inch relay line from the field, and took on more than a half dozen leases, including some that will make common carrier shipments to the coast. The Texas Company added about a dozen new connections to its list of outside leases served by Texas Pipe Line Company.

Humble Oil & Refining Company authorized immediate pipe line connections for 21 separate leases scattered over the Longview, Kilgore and Joiner areas between July 9 and 13, and continued the campaign in order to load its third trunk line outlet, consisting of a 10-inch line to Louisiana. Since all producers make up shortages on production allowances when capable, Humble Oil & Refining Company is allowing these connections to produce their proration allowables dating back to July 2, and will pay an average of all companies in settling for this outside oil. The company paid 15 cents per barrel as its weighted average price for the field on June runs.

Gulf Pipe Line Company has also come forward with requests for a limited number of new connections, and will probably pay the accepted average price, as it no longer posts a price in the field.

Sinclair Refining Company is expected to be the next aggressive solicitor of outside connections now that movement of East Texas crude through Sinclair-Texas Pipe Line Company's

East Texas Production

Daily average production of the Joiner-Kilgore district and the Longview field is shown below, with total number of production wells included:

	JOINER-KILGORE		LONGVIEW	
Week Ending—	No. Wells	Daily Average Production	No. Wells	Daily Average Production
February 18	22	19,090	1	6,511
February 25	24	24,954	1	7,044
March 4	39	51,475	1	4,578
March 11	50	75,170	1	7,170
March 18	64	75,540	5	14,021
March 25	81	104,345	6	17,769
April 1	115	119,500	11	24,990
April 8	159	165,250	16	26,000
April 15	198	210,208	25	38,180
April 22	234	239,515	30	58,480
April 29	298	271,070	39	68,715
May 6	344	216,650	46	52,250
May 13	434	208,900	58	48,550
May 20	463	242,300	70	61,510
May 27	524	279,072	86	71,017
June 3	592	284,765	111	66,710
June 10	655	282,305	126	46,729
June 17	729	302,990	142	68,370
June 24	805	274,050	161	85,880
July 1	872	256,990	189	95,270
July 8	926	285,999	219	97,765

recently completed 12-inch carrier has been increased to about 35,000 barrels daily. Sinclair Oil & Gas Company announced in obtaining an injunction against proration enforcement by the Texas Railroad Commission on its East Texas holdings last week that "it is willing to offer market outlet for additional oil from the wells of surrounding operators upon such terms and in such amounts as may be agreed upon between it and the owners of such properties." This large trunk line will also serve most of the leases of Prairie Oil & Gas Company in the field, but even then there will be ample room, as the line can handle from 60,000 to 80,000 barrels daily, depending on the pumping pressure applied.

This change in attitude on the part of major companies toward outside connections is affording nearly all operators with market outlet, although in most instances it will be restricted to proration allowances, or on same basis of offset drainage. Progress will have been made toward stabilizing the crude market situation in East Texas when this has been accomplished, and the prospects are now bright for all major companies to re-establish the 20-cent price posting as an inducement to small producers not to accept any price available in order to obtain a connection. These developments serve to lessen the need for the legislature, which is now in special session, to enact rigid laws to control the over-production and irregular price situation in East Texas. Re-establishment of a reasonable price by leading buyers will serve to stave off such a law being passed. The best evidence that the major companies as a whole do not want, or anticipate a severe law being passed is the fact that they have completed or started work on pipe line projects that would be financial failures should East Texas be restricted to its current daily output.

San Antonio, Texas.—Humble Oil and Refining Company's Kohler 50, the deepest well ever drilled in the Mirando district, in Duval County, is nearing 7000 feet. It is now at 6901 feet, and drilling ahead. The well is in Survey 164, 2805 feet from the south line and 160 feet from the west line.

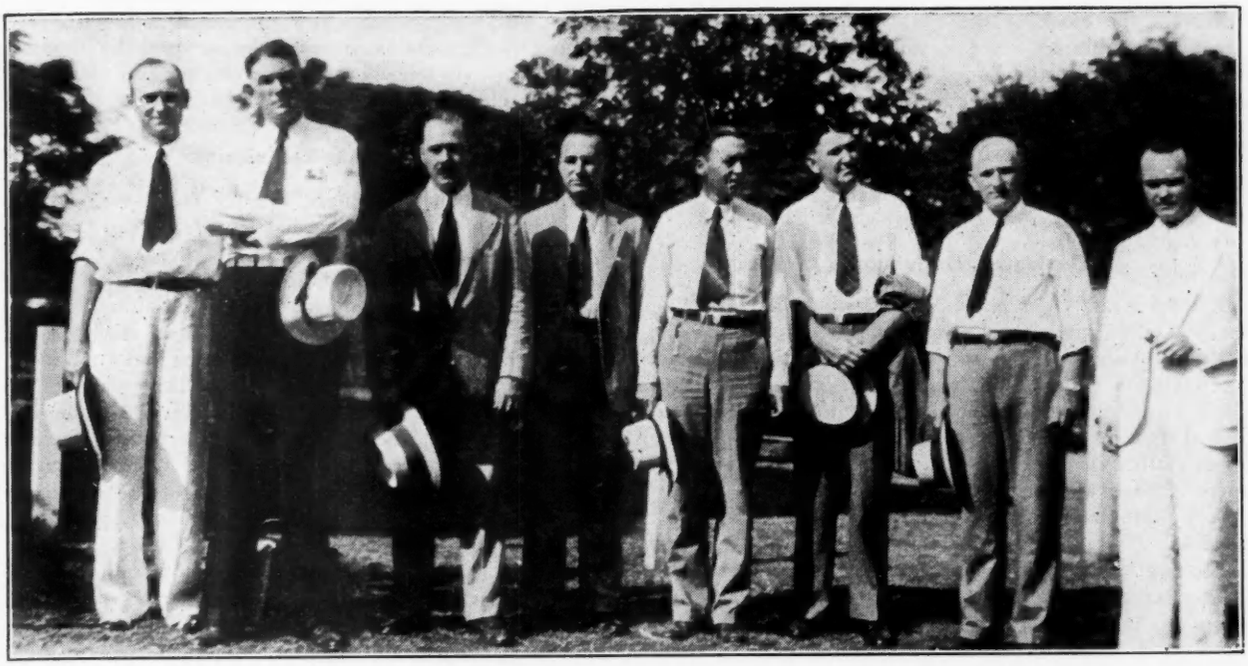
Fire Which Has Burned Since June 23 Curbed Through Tunnel

Tyler, Texas.—The tunneling method of curbing the flow of a burning oil well proved successful in the Kilgore area July 19 after unsuccessful efforts were made to kill the flames with nitro. Through the joint efforts of Gulf Production Company and Shell Petroleum Corporation, Bell & Graddy, Inc.'s Daniel-George 1 responded to engineering skill after burning about 26 days; no accidents marred the record made by the fire fighters. The well caught fire from boilers while flowing open into slush pit after being diverted from tanks to clean the hole of rotary mud, and a shot of nitro later stripped off the connections so that production was fed to the flames by two lead lines and straight up from the tubing. This three-way stream made it impossible to approach reasonably close to the big producer.

A tunnel seven by four feet was started from a creek bank about 175 feet from the well, and was sloped to tap the casing about 25 feet below the surface. Shell Petroleum Corporation and Gulf Production Company assumed charge of this project at the request of the well owners, owing to both of the former having offset wells.

Upon reaching the casing and creating a large chamber in which to work, the workmen tapped the 10-inch surface string to fill with cement. After having assurance that there was no danger of an oil leak between the seven-inch oil string and the surface pipe, the crew stripped off a portion of the latter, and tapped the seven-inch at two points, with connections in place. In making the top penetration provisions were made for the insertion of a nicked gate, or wam that would permit the forcing of the 2½-inch tubing against the wall of the casing, and virtually confine the flow of oil and gas to the tubing. The lower opening in the oil string was used to pump in asbestos fiber, okum, heavy mud and other materials that would tend to clog the tubing and casing. The results were that the flow was cut off within a fraction of an hour, and the fire extinguished. The well will remain shut in until a new derrick and fittings are installed. Joe Russell, represent-

Mouth of tunnel through which Bell & Graddy's Daniel George 1 was extinguished. The work of controlling this well was under the direction of organizations of Gulf Production Company and Shell Petroleum Corporation. In last week's issue this well was erroneously referred to as being owned by Gulf-Shell organizations.



Leading figures at the organization meeting of the East Texas A. P. I. chapter. Left to right, they are: Sam Gladney, Sun Oil Company, chairman of the committeee nominating chapter officers; Blaine Johnston, vice president and general manager, Simms Oil Company, and vice chairman for East Texas, Southwestern district, A. P. I. production division, who presided at the meeting; W. H. Meier, engineer, Atlantic Oil Producing Company, and vice chairman, central committee on district activities, in charge of chapters; H. N. Blakeslee, safety engineer, A. P. I.; L. C. Peters, superintendent Humble Oil & Refining Company, Kilgore district, elected vice chairman for that district; Carl Young, secretary, A. P. I.; R. W. Taylor, superintendent in East Texas, Louisiana and Arkansas for Simms Oil Company, elected chairman East Texas chapter; and E. L. Davenport, superintendent Shell Petroleum Corporation in East Texas, elected secretary-treasurer of the East Texas chapter.

ing Gulf Production Company, and E. L. Davenport, field superintendent for Shell Petroleum Corporation, had charge of work in killing the fire.

Vitek et al's G. W. Eaton 5, located near London, continues to burn after having exacted a toll of three lives, including the well owner, on July 12, and little progress has been made in combatting the burning well because of receivership litigation. Receivers were appointed during the past week by district court judges in Rusk, Smith and Tarrant Counties, and C. A. Gilliam, Fort Worth banker, appointed by the latter county, is contesting the jurisdiction of the other two receivers. While this court action is pending, an effort is being made by B. F. DeLong and associates to try and extinguish the flames with chemicals.

Complete New Deep Gas Well in Panola County

Marshall, Texas.—A spray of salt water appeared with the latest upper Trinity zone gasser completed during the past week in the Bethany gas field of Panola County, East Texas. The new deep gasser is United Production Corporation's Werner 10, B. C. Jordan Survey, which gauged 11,-80,000 cubic feet of gas with 1900 pounds rock pressure at total depth of 4720 feet; 6⅝-inch casing had been cemented at 4622 feet. Arkansas Louisiana Pipe Line Company during the past week cemented seven-inch casing at 4682 feet in its Werner 14 in the same headright, also a Trinity test.

E. L. Chapman who recently subdued his wild gasser, Pickering Lumber Company 1, C. F. Henry Survey, near Joaquin in Shelby County, during the past week cemented a string of seven-inch casing in the hole, which had nothing but 12-inch surface pipe set when the well unexpectedly blew in. Total depth is 3864 feet. One new location was made in Shelby County during the past week, this with Panola County being the most active border county. The new location which has already rigged up and been spudded is Smith and associates' Carroll 1, J. A. Parker Survey.

A. P. I. East Texas Chapter Plans Non-Technical Program

Longview, Texas.—The East Texas chapter of the American Petroleum Institute was formed at an organization meeting held here Wednesday afternoon, July 15, attended by more than 100 men, including drilling and production superintendents, engineers, members of the institute, and field men in this district. Blaine Johnston, vice-president and general manager, Simms Oil Company, and vice-chairman of the institute for East Texas, presided at the organization meeting, at which officers for the East Texas chapter were elected and plans for the chapter's activity were rounded out.

R. W. Taylor, district superintendent over Arkansas, Louisiana and East Texas for Simms Oil Company, was elected chairman of the East Texas chapter; Yates Hunt, of H. L. Hunt Company, vice-chairman in the Joinerville district; L. C. Peters, superintendent for Humble Oil & Refining Company, Kilgore district, vice-chairman over that district; Aubrey Scofield, superintendent for Gulf Production Company, Longview district, vice-chairman over that district; and E. L. Davenport, East Texas superintendent for Shell Petroleum Corporation, was elected secretary-treasurer of the East Texas chapter. Active work is to begin immediately, regular meetings will be held monthly with the meeting place being alternately in Longview, Kilgore, Henderson, Gladewater and Tyler in order to give as many field men as possible an opportunity to attend. The first field meeting was held at Kilgore on the night of July 17 for the purpose of laying plans before field men who were unable to attend the organization meeting here. A call meeting of the chapter may be made upon the request of as many as 15 members.

Blaine Johnston, in opening the organization meeting, explained that the work of the East Texas chapter would be non-technical, that the chief purpose of the chapter was to allow an interchange of good ideas by field men to the end of improving drilling and production conditions, and

that through the work of the chapter East Texas operators would be able to more easily overcome their individual problems. Johnston hoped that more field men would become interested in the work of the chapter than have alligned themselves with other chapters throughout the country, stating that the work taken up and thrashed out at the coming meetings of this chapter would be strictly of a practical nature.

Geological Discussion

R. B. Whitehead, chief geologist, Atlantic Oil Producing Company, Dallas, made the keynote address of the meeting in his presentation of the sub-surface condition of East Texas. Using a compilation, which he explained was not only his own conclusions but probably the concensus of geological opinion of that department of other major companies operating in East Texas, he briefly layed before the group of drilling and production men what, in his estimation, they were facing in drilling and producing the East Texas field. His talk hinged around the relation of East Texas geology to planned well spacing, and he worked to that end after roughly offering his idea of the underground situation in chart form as he talked. He named salt water as the hazard to producing oil in this, as in most other fields, and told the meeting why. One and one-half billion barrels of oil and 10,000,000,000 barrels of water he gave as the approximate ultimate recovery from East Texas with drilling and producing continuing as it has to the present time. He stated that if wells were properly spaced, drilled and produced, that the oil recovery figure could no doubt be increased to 1,750,000,000 barrels with the water recovery being reduced to 500,000,000 barrels, or one-twentieth of the previously mentioned amount of water. With proper well spacing, keeping bottom holes safely above the critical water level, and producing wells evenly and on proper back pressure, he submitted that the water level should rise evenly entirely across the field and result in a gradual, even skimming of the oil from the top to leave the salt water in the ground. He cited the expense of disposing of 10,000,000,000 barrels of salt water, naming the cost of a disposal system to the Gulf as $30,000,000, or that, properly stored in an inland water system, would mean a lake two feet deep and 10 miles square.

In explaining the importance of keeping East Texas wells from going to water, Whitehead gave Yates field of West Texas as an example, saying that the number of water wells in that field were reduced from 64 to 37 when the daily allowable production was cut from 125,000 to 70,000 barrels. He told the meeting that co-operation in drilling and producing the field properly was feasible in spite of the large number of operators who were unable to maintain a geological staff, or even a geologist. Regular advice on producing and water levels is easily obtainable at a reasonable figure from the many geologists who are thoroughly acquainted with East Texas field conditions, Whitehead explained, and further stated that major companies were agreeable to furnishing individual operators with the proper data to enable them to properly drill and care for their wells.

Whitehead presented the meeting with the two theories of possible source of East Texas production—the old ocean bed off the west flank of the Sabine uplift, and the black bituminous shale beds below the producing formation. Whitehead's opinion as to the more likely source is with that school of geologists favoring the black shales with impervious layers. He named 3310 to 3330 feet below sea level as the present critical water level.

In the absence of Robert R. Penn, vice-president of the institute and chairman of the division of production, Carl Young, secretary, made a few introductory remarks at the opening of the meeting, in which he stressed the importance of the work of the East Texas chapter and the valuable work the chapter had before it.

Non-Technical

Stanley Durward, engineer, Shell Petroleum Corporation, and chairman, Southwestern district, division of production, spoke briefly on chapter activities, bearing down on the importance of making the new chapter strictly non-technical, the importance of creating a spirit of carefulness to minimize loss of life and property. He cited the importance of the contacts which had been made in the work in other chapters and brought out the fact that these contacts in the East Texas chapter would be even more valuable to all concerned in that the variety of territories represented in East Texas would tend to give operators an insight into work having been done in all sections of the world.

Capt. J. F. Lucey of Dallas, instrumental in the organization of the Institute, reviewed the history of the organization, brought out much of the outstanding work the many chapters had accomplished, and pointed out the many problems ahead of the new East Texas chapter. He stated that the standardization work alone had made American equipment the standards of the world. In relation to the entrance of politics into the industry, he stated that the institute membership could outdo politics and bring the field under control, with proper work. He said the recent plan of producing East Texas was not a good one since the western side wells had larger initial yields than those wells on the eastern side, and therefore larger potentials, whereas the east side wells apparently have larger ultimate recoveries, yet smaller initial yield and therefore are penalized. He stated that East Texas umpires were now working on a proration plan which offered a favorable outcome for the area.

W. H. Meier, engineer, Atlantic Oil Producing Company, and vice-chairman, central committee on district activities, in charge of chapters, told of the great need of the East Texas chapter, explaining that there was a great variety of operators in the area who were strangers to this type of field, and stressed the need of assembled knowledge of the entire group that would be helpful to all of them. He named some of the problems facing the chapter—Salt water and its disposal? How should East Texas be pumped? What type of well heads and other control equipment should be used?

H. N. Blakeslee, safety engineer, A.P.I., Dallas, spoke to the meeting on safety in East Texas, particularly fire control. He presented a detailed review of a plan now worked in the Los Angeles Basin, to what extent fire prevention and control had been perfected, and added that the same working plan would be easy to work in East Texas. It was one particularly of co-operation on the part of the operators, where proper equipment was available and proper instructions were posted at all times for field men, and where proper co-operation is had from every possible source, as railroads, police forces or hospitals.

San Antonio, Texas.—Three locations are reported in Zapata County. They are: Pray and Chamberlain (Whicker) Garza 4 on Block 1, subdivision of La Zorro ranch in Las Comitas grant; C. R. Moore and J. W. Moore Adelita G. de Flores 1, on Block 99, E. M. Doty subdivision, Charco Redondo grant; location of a well by O. W. Killam in the Ranchita pasture of the Borrego grant. A producer, A. R. McLennan's Cuellar 3, on Survey 277 of Zapata County in the Cuellar extension of the Jennings field, was brought in at depth of 1582 feet, making 50 barrels of oil per day.

EAST TEXAS HIGHLIGHTS

By H. H. KING
Staff Representative

Seeking Million Barrels

A north Texas refiner was reported early this week to be attempting to contract for 1,000,000 barrels of East Texas crude at 20 cents per barrel after having been unable to obtain that supply at 15 cents.

Water Wells Make Oil

Several wells in the Overton district drilled to the regular 400 foot water sand for water supply are reported producing oil. This unusual occurrence is due to the fact that oil has escaped into the shallow sand from leaks in the casing of an adjacent wild well.

Footage Prices Shrinking

Footage prices received by rotary contractors for drilling the 3600-foot holes in East Texas are gradually shrinking as competition for new contracts increase, and some of the larger operators are paying a flat rate of $8000 per hole, with derrick, pits, casing, fuel, water, etc., furnished. This figures about $2.22 per foot, as compared to a former average scale of about $2.50 per foot with everything furnished. Small operators are insisting that contractors accept part cash, and balance payable from oil runs, which invariably are immediately discounted by most contractors.

Sinclair Gets Injunction

Sinclair Oil & Gas Company became the second major company to obtain relief through court action from interference by the Texas Railroad Commission in the operation of its properties and transportation of crude production in East Texas. An injunction was granted the company in district court at Austin July 18 immediately after submitting a petition, such being only a few days after regular shipments of crude from East Texas were launched by Sinclair-Texas Pipe Line Company's 12-inch carrier. Arkansas Fuel Oil Company, a major operator in Gregg County, obtained an injunction July 9, and was followed shortly by E. L. Chapman, Fort Worth, and associates; Concord Oil Company, Dallas, and others; and G. W. Hindman, Marshall, Texas, et al. Injunctions against the commission's former proration order do not apply to the new rules introduced July 2.

Another East Texas Plant

Operating refineries in East Texas were increased to nine when Rusk Refining Company's 3000-barrel capacity plant at Overton made its initial crude runs during the past week. This company is owned by C. A. Middleton, Corsicana; H. H. Coffield, Rockdale; and Geo. P. Mann, Thrall, Texas; the latter two being also identified with All-State Refining Company, which is operating a small plant at Thrall. Crude supply for the Overton plant is obtained on contract through Butler & Calhoun Company's pipe line system.

Plant Erection Rapid

Record time was established by Central Refining Company, Petroleum Tower building, Dallas, in erecting a 10,000-barrel capacity skimming plant, located on I&GN Railroad at Friar Switch and between Overton and Henderson, as this plant was to be placed in operation July 21 after firing up for first time July 17, or five weeks after arrival of first materials. Crude will be obtained from Rusk County producers on two-year contracts. H. C. Chaddick was in charge of construction work, and also will be plant superintendent. A 40-car capacity rack has been installed to serve this plant.

Water Wells Being Drilled

A sizeable water well drilling campaign is under way in East Texas as result of most of the creeks and streams that have been supplying boiler water being dry, and during the past week a survey compiled by scouts revealed more than 60 shallow tests drilling for water between the 700 and 1100-foot horizon. Success met with by operators in obtaining water from wells dispels any likelihood of a serious water shortage taking place during the remainder of the summer.

Mid-Continent Buys Oil

Mid-Continent Petroleum Corporation is reported to have contracted to purchase 500,000 barrels of crude as produced from Mullendore-Berry & Berry's W. W. Elder 20.45-acre lease in the Mary Van Winkle Survey, near Kilgore, at a flat price of 12½ cents per barrel. There is one producer on this property, and it gauged 315 barrels first 15 minutes on open flow early in June.

Crude Sale Pending

H. L. Hunt et al were negotiating last week with Atlantic Oil Producing Company, crude buyer in Texas for Atlantic Refining Company, for the sale of 1,000,000 barrels of crude to be delivered to the latter at rate of 5000 barrels daily at 12½ cents per barrel. It was reported that full payment for this oil would be made at start of deliveries.

Lion Makes Crude Contract

Lion Oil Refining Company, East Texas producer with a 12,000-barrel refinery at El Dorado, Arkansas, has contracted for gathering and delivery of its production to the plant through Magnolia Pipe Line Company's system at a 27½ cents per barrel tariff. Magnolia Pipe Line Company will route shipments via its junction station at Center, Texas, then reverse the oil stream on its Arkansas trunk line.

Two Crude Contracts Made

Two separate crude contracts involving the delivery of an aggregate of 1,093,500 barrels of oil have been made by E. L. Chapman, Fort Worth producer, with holdings in the Joiner and Kilgore fields, to independent refineries in East Texas. Delivery of 1500 barrels daily for one year is to be made to the Overton plant of Rusk Refining Company on a price basis of 25 per cent less than the average posted price in the district of a group of major companies, but at no time to be less than 15 cents per barrel at the well. Contract has been made to supply 2000 barrels daily for nine months to the Tyler plant of Taylor Refining Company on a profit-sharing basis to be determined by revenue derived from refined products made from said crude, but at no time is the crude price to be less than 15 cents per barrel at the well. Contrary to reports, Chapman has not sold crude for future delivery at less than a minimum of 15 cents per barrel at the well.

Four New Lines Operating

Direct trunk line outlet for East Texas crude was increased about 182,500 barrels by the starting of oil shipments during the past seven-day period by four new units, including one 12-inch line each for Magnolia Pipe Line Company and Sinclair-Texas Pipe Line Company; a 10-inch to Louisiana for Humble Pipe Line Company and an eight-inch for Liberty Pipe Line Company. Materials have been shipped, or construction work is under way on 10-inch carriers to Houston and Beaumont territory by Shell Pipe Line Company, Texas-Independent Pipe Line Company, Sun Pipe Line Company and Atlantic Pipe Line Company. These four new lines will add 160,000 barrels of new capacity, and increase the total to about 640,000 barrels daily.

Gulf Coast Field Developments

JACK LOGAN, ***Staff Representative, Houston, Texas***

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Cameron Parish Is Quiet With But Two Active Tests

Houston.—In a general way, perhaps Cameron Parish, Louisiana illustrates why that state has been able to keep its daily average production this year at a healthy margin below its allowable production.

Inactivity characterizes drilling operations in the parish. Of the 14 drilling projects considered interesting enough by virtue of location at the early part of the year to carry on drilling reports, only two are active this week. Eight of the projects have reached the "location" stage, nothing more. One is rigging up, one has built a derrick. Another who built a derrick and drilled to the region of 2000 feet has shut down.

Vacuum Oil Company's Comeron Meadows 2, in the Cameron Meadows district, has reached the interesting depth of 4000 feet and is fishing for casing. Magnolia Petroleum Company, active in the Sweet Lake district of Cameron Parish on its Sweet Lake Land Company 2, ceased drilling temporarily at about 5716 feet to drill a water well.

Houston.—Two of the active drilling tests in Calcasieu Parish, Louisiana, which will be watched for the next few weeks are Vacuum Oil Company's Wait 1 in the Iowa district and Union Sulphur Company's Fee 767 at Sulphur. Wait 1, located 225 feet each way out of the southeast corner of Section 12, 9s, 7s, is fishing for screen after having had a show of oil at about 6970 feet. Union Sulphur Company's Fee 767, which had a show of oil sand at 3738 feet, has cemented 9⅝-inch casing a few feet above that depth. This well is located in Section 29, 9s, 10w.

Several Completions Due Soon At Barbers Hill

Houston.—While lack of new production this week at Barbers Hill caused the daily average yield of that field to drop 641 barrels to 19,682 barrels, wells due for early completion may send the output up for the latter part of the month.

Gulf Production Company's Wilburn 4, for example, is showing a little oil at 5175 feet. Sinclair Consolidated Oil and Gas Company's John H. Smith 3 has reached the significant depth of 5026 feet and is preparing to shoot boulders encountered at 4640 feet. Sun Oil Company's John H. Smith 2 is swabbing at 5408 feet after having set 15 joints of five-inch outside diameter Layne and Bowler screen.

Nacogdoches County Test Passes 5000-Foot Mark

Houston.—Benedum-Trees Oil Company's Conkrite 1, wildcat well located on the K. A. Chireno survey, one mile south of Nacogdoches, is coring at 5340 feet, having encountered no shows of commercial significance to that depth.

This Nacogdoches County wildcat cored chalk at 3100 feet, 4050 feet, 4138 feet and 4563 feet, and cored shale a little above 5150 feet.

Whether the wildcat hits oil or not, it will be closely watched for geological revelation. Very little deep strata theory in Nacogdoches County has been substantiated by actual cores.

Houston.—Red Bank Oil Company's J. A. Foster 1, 12 miles east of Cameron in Milam County, Texas, reached the top of the Pecan Gap chalk at 3217 feet after having a show of gas at 2183-96 feet. J. A. Foster 1, which is waiting for drill pipe, has shut down at 3512 feet. Elevation of the well is 375 feet.

CORRECTION

Last week's issue of The Oil Weekly carried a statement to the effect that Jefferson Lake Oil Company's Lake Peigneur 17 in the Jefferson Island field of Louisiana was abandoned in lime at 625 feet.

This was incorrect, according to Ed Laguerre, superintendent of the above company, who informs us that casing has been set at a greater depth than 625 feet and that the operators are drilling out the plug preparatory to coring through the sulphur formation.

St. Landry Parish Test Gets Fair Show of Oil

Houston.—The Texas Company's Botney Bay 10, semi-wildcat well of St. Landry Parish, Louisiana, showed 3½ fourbles of cut oil, mud and sand in a 30 minute drill stem test this week.

Botney Bay 10, located in the Port Barre district, topped the broken cap of salt and lime at 3950 feet and made the above drill stem test at 3990 feet. Incidentally, it had shown salt water at 70 feet above the test depth. The well is located in Section 4, 6s, 5e.

Standard Stops Drilling On Wells in Iberville

Houston.—Standard Oil Company of Louisiana, which has been developing its Schwing property in the Bayou Blue district of Iberville Parish, Louisiana, temporarily has ceased drilling on the three tests there.

Schwing 3 has been temporarily abandoned by that organization after having reached simultaneously salt water and a depth of about 2983 feet. Schwing 6 has halted drilling long enough to mix mud after losing returns in a rock cavity at 3516 feet. Schwing-Wilbert 7 is temorarily shut down in hard sand at 1340 feet.

San Antonio, Texas.—M. O. Rayor's Dunlop 1, three miles west of Luling, is making 30 barrels of oil per day on pump after being plugged back from 2515 feet to 2480 feet in the Buda lime, to open a new pool in Caldwell County. The well is located 150 feet from the northwest and northeast line of the tract in the Solomon Sear Survey. The well originally was drilled four feet into the Edwards lime to a total depth of 2515 feet. Casing was set on packer at 2145 feet.

South Texas Field Developments

EARL POST, ***Staff Representative, San Antonio, Texas***

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Test Near Goliad May Open New Oil Field for Southwest Texas

San Antonio, Texas.—Neuhaus Drilling Company and Southern Crude Oil Purchasing Company's Pettus 1 in Goliad County is in process of completion at a total depth of 4298 feet. The well is believed to have opened a new field in Goliad County. The plug has been drilled.

The well is located 12 miles northwest of the town of Goliad; 4750 feet north and 28 degrees and 20 minutes west of the extreme southeast corner of the 3418-acre tract in the Maria de Jesus Ybarbo Survey. It is between the Pettus field of northern Bee County and the new Slick field in Goliad County near the DeWitt County line.

The test cored a sand at 4282-87 feet, which showed oil saturation. It then went to 4290 feet, but the three-foot core was not recovered. At 4290-93 feet, a portion of the core showed sandy shale and the next five feet showed hard sandy shale.

The well was originally drilled 3853 feet by Southern Crude Oil Purchasing Company and abandoned about three years ago. A deal was made with V. F. Neuhaus of Neuhaus Drilling Company recently to deepen the test. Both operators hold one-half interest in the 5100-acre block and well.

Victoria County Test Gives Promise of Gas at 2048 Feet

San Antonio, Texas.—The Texas Company's McFaddin 3 in Victoria County, on a drill stem test, indicated that it could be completed as a gasser at 2048 feet. It showed a pressure of 800 pounds during three minutes of the test. The well will be drilled deeper in search of oil.

The well is located 2675 feet north and 30 degrees west of McFaddin 2, which was completed in February, this year, at 2005-25 feet as a large gasser, opening a new field. It is in the John M. Rine Survey. The McFadden 2 will be remembered for its spectacular wild flow from February 16 to February 20, during which time it made a daily average of 30,000,000 cubic feet of gas and 4000 barrels of fresh water. There was no blowout preventer on the hole when the well blew in wild. Eight hundred feet of open hole made closing in of this well a difficult proposition.

The McFadden 3 will test the formations below the gas level. This was impossible in the first gasser due to the trouble in completing it.

Houston Oil Company's Konrad 1, 1000 feet east of the northwest corner of the T & NO Survey, Beck Salt Dome, five miles northeast of Victoria, tested a sand at 4220 feet which showed 1250 feet of salt water in three minutes. The well was last reported to have reached a depth of 4275 feet.

The Levi 1 of Simpson Fell Oil Company, Westheimer et al, in the same county, six miles northeast of Slick's McFaddin 1, is drilling at 5759 feet, after showing gas at around 2000 feet.

In the same area, the T. B. Slick Estate is setting screen in its McFaddin 1 for the fourth time for the completion of the well as a gasser at 3505-09 feet. The well when previously completed, proved to be the biggest gasser in the McFaddin field with an estimated daily capacity of 50,000,000 to 60,000,000 cubic feet and a pressure exceeding 1800 pounds. Damage resulting from the heavy pressure has been responsible for the repeated reconditioning of the well. The well is in the J. Barvian Survey, three miles northeast of the Lion producers.

West Extension to Cosden Pool Fails to Materialize

San Antonio, Texas.—A 1600-foot west extension of the Cosden pool at Pettus, Bee County, failed when Cosden Oil Company and Rowan and Tongs' Freeland 2 in the John Pace Survey tested 270 feet of salty mud at 3696-3706 feet. This is the same sand that wells in the Cosden pool are finding their production. The well may be abandoned.

Grefin and Woods' Riggs 1, in the James Nowland Survey, has been abandoned at 5650 feet. The well is in Bee County, 6½ miles west of Skidmore, and two miles from the Live Oak County line. The well's only interesting showing was at 4608 feet where it made a little gas.

J. M. Davis' Ray 1, in the Williamson Survey, which recently extended the Pettus pool one mile to the south to open a new pool, is rated as good for 300 barrels on a 20-64 inch choke. The sand is at 3920-25 feet. Pressure on the casing had increased during the week to around 1200 pounds. Humble Pipe Line Company has completed a connection to the new well and is running between 250 and 300 barrels daily.

San Antonio, Texas.—After being deepened from 2083 feet to 2212 feet, the de la Garza 1, of the Southern Gas Utilities—E. A. Sterling & Company (Killam-Carson) was brought in to make 14,000,000 cubic feet of gas per day with a rock pressure of 645 pounds. The well is located 150 from the east and south lines of Block 13, Survey 336, of the Carolina-Texas field.

San Antonio, Texas.—Los Olmos Oil Company has completed its second oil producer in the recently discovered shallow oil pool in Starr County, eight miles north of Rio Grande City. The well is the Kelsey-Bass 5, located on Block 7 of the subdivision of Porcions 75-76-77, jurisdiction of Camargo and was brought in at the shallow depth of 431 feet and is now making 25 barrels of oil per day. The well is on the same block with the Kelsey-Bass 4, the discovery well, which made 20 barrels of oil a day on pump. This operator has two gas wells in the pool.

San Antonio, Texas.—Barbee and Hunter's J. D. Finnegan 1 in Kleberg County is to be abandoned at a total depth of 3031 feet, 31 feet below contract depth. The well is located 150 feet from the north and west line of the 250-acre tract of the El Pasadizo Survey, seven miles south of Kingsville. It had a good showing at 2251-57 feet.

LOUISIANA-ARKANSAS

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Shut Down 150 Oil Wells In South Arkansas Fields

El Dorado, Ark.—More than 150 oil wells in South Arkansas fields were shut down during the past week due to the present market conditions and the use in local refineries of cheap East Texas crude.

Reserve Petroleum Company, effective July 15, shut down all its South Arkansas leases comprising 59 wells and 175 barrels daily production in the Louann pool of the Smackover field. O. F. Whittaker, independent, shut down 13 wells with daily production of 42 barrels in Louann. Atlantic Oil Producing Company, on July 15, shut down all its Arkansas wells comprising 50 in the Lisbon field with about 85 barrels daily production and 31 wells in Louann with combined daily yield of 150 barrels.

Marine Oil Company, discoverer of the Urbana district in Union County, and having the majority of production there, has shut down all its nine wells in that field with combined daily output of 1600 barrels.

The fact that Lion Oil & Refining Company is making connections with Magnolia Petroleum Company's trunk line at a point in Section 3-17-15 lends color to reports current here that Magnolia is going to deliver an unannounced amount of East Texas oil to the former's refineries in El Dorado as soon as Lion Oil & Refining Company completes a gathering system in East Texas. The price and amount were not stated. Lion Oil & Refining Company is taking up its 12-mile, six-inch line from its refinery in Section 32-17-15 to the Rainbow City (Champagnolle) field and will ship this pipe to East Texas to be used in the gathering system there. This company will use its four-inch line from the Champagnolle field to the refinery.

Shreveport, La.—Andrews and Davlin's Nattin 1, Section 15-22-14, a wildcat in Bossier Parish, Louisiana, in which 4½-inch casing was recently cemented at 2868 feet with one joint of perforated casing at the bottom, refused to flow at that level and during the past week was deepened eight feet into red beds. Late last week the well was flowing by heads at an estimated rate of five to 15 barrels of 24.5 gravity oil daily through two-inch tubing.

Abandonment of "Stripper" Wells Continues in Northern Louisiana

Shreveport, La.—Abandonment of "stripper" wells in various North Louisiana Parishes due to the low price of crude under the present schedule, continued during the past week. Standard Oil Company of Louisiana abandoned 11 wells in the shallow Bellevue field of Bossier Parish and abandoned four in Cotton Valley, Webster Parish, where this company has made practically a complete shutdown. The Texas Company abandoned three in Bull Bayou, Red River Parish; and Gulf Refining Company abandoned two in Caddo Parish.

One well was abandoned in Cartersville, Bossier Parish, by Tippett Drilling Company. Bellevue is experiencing practically a complete shut-down and during the present week all but two or three of its 80 producers are expected to be closed down. The daily average production for the last week dropped below the 200-barrel mark where June 1 it had been close to the 600-barrel mark.

The 22-cent top price for crude is especially onerous in North Louisiana districts as in some of these areas the state severance tax takes exactly half of the posted price for 40 gravity and above, the tax being based on a gravity basis with 11 cents per barrel charged for oil of 40 gravity and above. Accessibility of cheap East Texas crude for refineries in this area is also felt as the lifting charges, tax, etc., on the Louisiana crude must compete with the outside accessible oil.

Outside Test of Zwolle Area Produces 500 Barrels Daily

Shreveport, La.—The Texas Company's Landrum 1, NE SE Section 32-8-11, Sabine Parish, Louisiana, an outside test in the northeast part of the southeast offshoot to the Zwolle field which produces from a marl and chalk horizon at 2200-2700 feet, was completed during the last week flowing 500 barrels of oil daily through a half-inch choke from total depth of 2377 feet in the chalk; 6⅝-inch casing had been cemented at 2236 feet.

The Texas Company during the last week started rigging up for another test in southeast Zwolle, Nabors 1, NE SE Section 2-7-11.

Despite bad market conditions and shutdown of many operations, Loving Oil Company, during the last week spudded in Bowman-Hicks 17, Section 16-7-12, a 6000-foot test for the Zwolle field; 15½-inch surface pipe was set at 110 feet and late in the week the test was drilling at 1100 feet. If this test is taken to the contemplated depth it will be Zwolle's first test below 4200 feet since oil was discovered in that area in 1928.

Urbana District Well Good for 490 Barrels

Shreveport, La.—The last oil producer that probably will be completed in some time unless Smackover's first 5000-foot test should hit a pay horizon, was completed during the past week in the north offshoot of the Urbana district of Union County when Wilson and Chapman's Atkins 1, SW NE Section 3-18-13, was completed flowing by heads wide open at the rate of 490 barrels of oil daily from total depth of 3610 feet; 6⅝-inch casing was cemented at 3600 feet after a hard oil sand was cored from 3596 to 3602 feet.

This leaves only four active drilling operations under way in Arkansas aside from Lion Oil and Refining Company's Guy P. Hayes A-9, SW NE Section 4-16-15, Smackover's first 5000-foot test. This well cored red gummy shale late last week from 4451 to 4457 feet.

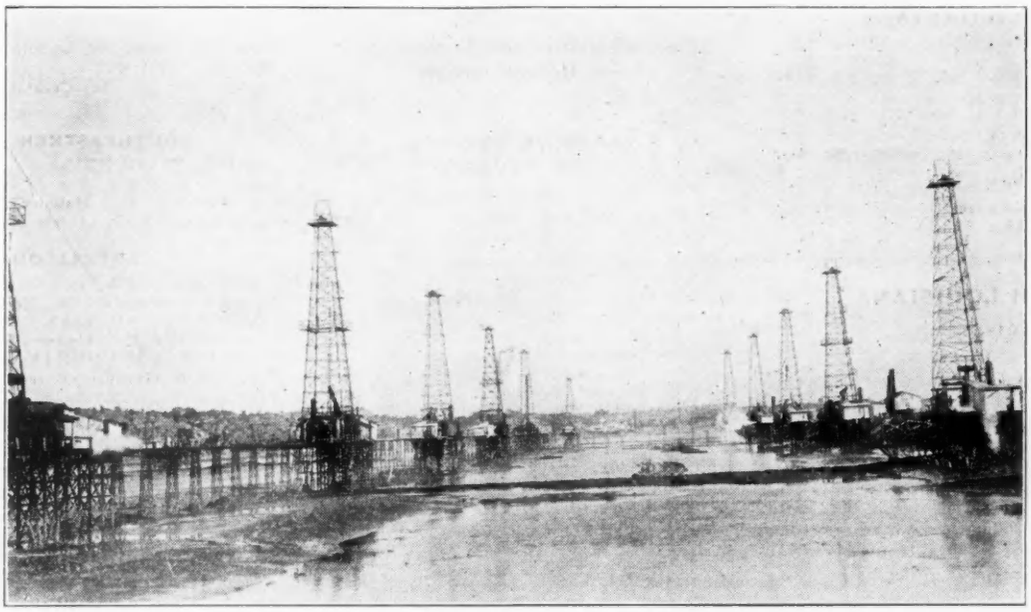
One new location was made in Arkansas during the past week, this being Ozark Natural Gas Company's Giard 1, Section 34-8n-32w, Sebastian County, in the northwest part of the state.

Abandons Wildcat in Carroll Parish, Northern Louisiana

Shreveport, La.—United Gas Public Service Company during the past week abandoned as a dry hole, Pioneer Cooperage 1, Section 29-21-9e, West Carroll Parish, a wildcat in northeast Louisiana, at 3277 feet; 15½-inch surface casing had been cemented at 167 feet and 10-inch at 867 feet.

In the Richland Parish gas field United Carbon Company completed Cooper 2, Section 13-16-6e, at 2420 feet as a 2,000,000-foot gasser, the only successful completion in a proven North Louisiana district during the past week.

INTERNATIONAL PETROLEUM
IN REVIEW



Langwa Field, Upper Burma

Iraq Government Offers Concessions

Baghdad, Iraq. — The government of Iraq is advertising in European trade papers to the effect that applications from responsible corporations, firms, or individuals will be considered for the granting of an oil concession or concessions over the whole or any portion of the Kingdom not already conceded to Iraq Petroleum Company, Ltd., and Anglo-Persian Oil Company, Ltd.

It is required that applications be submitted by registered letter to the Minister of Economics and Communications, The Serai, Baghdad, Iraq, before September 30, 1931; and it should indicate the area over which concessionary rights are sought, together with an outline of the general conditions proposed by the applicant, accompanied by a statement of financial ability, etc.

It is stipulated in the official notice that the government reserves absolute discretion to select for further discussion such applications as may appear to it to be to the best interests of the state; but such selection shall not bind the government to grant a concession.

Iraq Petroleum Company's concession referred to includes "all lands situated in the wilayats of Baghdad and Mosul which are bounded by the east bank of the River Tigris, by the Iraq-Turkish frontier, and by the Iraq-Persion frontier," excepting certain "transferred territories" referred to below, all remaining areas in these two Wilayats having been relinquished by the concessionnaire under the revised agreement of March 24, 1931, previously reported in these columns.

The Anglo-Persian concession mentioned owes its origin to the company's basic concession covering all but five northern provinces of the Persian Empire, lands including the Naft Khaneh and Chia Surkh fields, along the Iraq-Persian frontier having been transferred by Persia to Turkey when the Turco-Persian frontier was delimitated shortly before the World War, the Turkish and Iraq governments having successively recognized the company's rights and claims by agreements dated November 4-17, 1913, August 30, 1925, and May 24, 1926, respectively.

Certain strong American interests not represented in Iraq Petroleum Company consortium have displayed a guarded interest in these areas, as also has British Oil Development Company, Ltd., of London, an Anglo-Italian organization organized for that especial purpose which is said to include also certain American and German interests.

A special report recently submitted by the British government to the Council of the League of Nations relating to the progress of the Kingdom of Iraq during the period 1920-1931 includes a statement to the effect that Iraq Petroleum Company has already expended about $20,000,000 in Iraq having drilled a total of 115,000 feet at the end of 1930.

"Of the structures tested, only the Baba Gurgur structure and that at Qaiyara . . . have been proved to contain oil.* Other structures have given no positive result; others again have been proved to be barren. In 1929 they concentrated their drilling operations on the Baba Gurgur structure in order to determine its limits and productivity. At the time of closing this report 20 wells have been drilled to oil in this structure, and the results of production tests are extremely satisfactory."

It is stated in the same report that Khanaqin Oil Company, Anglo-Persian Oil Company's subsidiary operating in the "transferred territories," has drilled approximately 40,000 feet in the Chia Surkh and Naft Khaneh fields, substantial production having been developed in the latter, while prospect drilling continues in the former.

"The total production of crude oil from the fields at Naft Khaneh and Baba Gurgur amounted in 1930 to 122,000 tons (919,538 barrels.)"

Anglo-Persian Oil Company's requirements in the Iraq market were supplied from the former field, while oil was taken from the latter only to the extent required for fuel and motor transport by Iraq Petroleum Company in its own operations.

*The Baba Gurgur structure is located in the vicinity of Kirkuk; the Qaiyara structure about 60 miles south of Mosul on the right bank of the Tigris. Other structures have been found to contain gas under high pressure.

Completions for Past Week in U. S. Fields

▼ ▼ ▼

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
ELWOOD—		
Pacific Western Oil Co., State 92-8	1600	3457
KETTLEMAN HILLS—		
Shell Oil Co., Dixon 1, 36-21-17	6000	8807
PLAYA DEL REY—		
Union Oil Co., Townsite 11	400	5845
SANTA BARBARA MESA—		
C. N. Starke, Nye 1	300	2115

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
RICHLAND PARISH—		
United Carbon Co., Cooper 2, 13-16-6 e	¶2	2420

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
COWLEY COUNTY—		
Gralapp et al, Pierce 1, c sw se, 32-32-5e	¶15	630
Wilburn et al, McCullum 1, nw c ne 13-33-4e	¶½	637
McPHERSON COUNTY—		
Helmerick and Payne, Koehn 2, ne c se 12-20-2w	¶60	2932
Harris-Haun et al, Overman 1, nw ne se 20-19-1w	¶29	2925
Olsen Drlg. Co. et al, Koehn 2, ne sw se 36-19-2w	1930	3390
RICE COUNTY—		
Hippel and Rogers' Rainey 1 (owd), nw c se 3-21-6w	900	3996
SEDGWICK COUNTY—		
Gypsy Oil Co., Hamant 3 (owd), sw nw sw 14-26-2e	115	3315
Derby Oil Co., Eastborough 6, cel se nw ne 19-27-2e	95	2987
STEVENS COUNTY—		
Texas Interstate Pipe Line Co. et al, Gregory 1, c ne 13-33-39w	¶12½	2588

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Magnolia Pet. Co., Franklin 1, sw nw ne 15-1s-3w	*	2694
GARVIN COUNTY—		
H. T. Skinner et al, Elred 1, sw c 13-2-3e	*	1120
HASKELL COUNTY—		
W. L. Bowers O&G, Kinta 1, se c sw sw 31-8-20e	¶1¼	710
HUGHES COUNTY—		
Iglehart, Williams 1, c se sw 28-9-10e	*	3318
KIOWA COUNTY—		
I. D. Flanery, Reneau 2, sw c 24-6-18w	*	2975
MURRAY COUNTY—		
C. P. Williams, Williams 1, cnl ne ne 21-1n-4e	*	884
MUSKOGEE COUNTY—		
H. L. Jolly, Spaulding 2, se c ne 8-15-18e	¶7	1585
OKLAHOMA COUNTY—		
Morgan Royalty Co., Stout 1, nw se nw 2-11-3w (4 hrs)	6525	6210
PITTSBURG COUNTY—		
Utilities Prod. Co., Carney 4, sw nw sw 9-7-18e	¶13½	1771
SEMINOLE COUNTY—		
Amerada Petroleum Corp., Tiger 2, se sw ne 3-8-5e	3063	4197
WAGONER COUNTY—		
C. D. Bradley, Jacobs 2, ne c se nw 7-15-17e	¶3½	1014
F. L. Beam et al, Davis 2, nw c ne sw 22-17-16e	*	1008

For Tabulation and Comparison See Market Section

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
TIOGA-WAYNE FIELD—		
Belmont Quadrangle Co., Lentz 1	¶2½	....
Hallock 1	¶3	....
Manufacturers Gas Co., Buckbee 1	*	....
Lycoming Natural Gas Co., Place 1	¶3½	....
Farr 1	*	....
Allegheny Gas Co., Manning 1	¶2¼	....
Eastern States Gas Co., Briggs 1	*	....
Penn United Gas Co., Burdette 1	¶3	....
Whitmore Oil & Gas Co., Broughton 1	*	....
Crandall & Black, Stratton 1	¶2½	....
Whitmer & Co., Smith 1	¶2¾	....
Finger Lakes O. & G. Co., Nixon 1	¶2	....
Sylvania Corp., Elliott 1	*	....
BRADFORD FIELD—		
Olean Petroleum Co., Fee 1	7	....
A. J. VanTine, Fee 2	3	....
Margaret Cort, Fee 67	3	....
South Penn Oil Co., Fee 1	2	....
Melvin 261	2	....
Marilyn Oil Co., Seward 1	2	....
Daly Oil Co., Bingham 412, tr 15	3	....
CLARION-VENANGO FIELD—		
L. B. Shannon, Leeper 93	2	....
Chas. A. Imel & Co., Lands 8	2	....
Nuhfer Co., Perry 3	¶¼	....
Lambert National Bank, Stearns 10	2	....
Fryburg Motor Co., Betz 1	¶¼	....
CENTER-MIDDLE FIELD—		
L. Epstein, Brown 16	7	....
Kervin & Co., Kapp 1	4	....
Grow-Wilson & Co., Grow 1	pressure	....
WASHINGTON COUNTY—		
Union Gasoline Oil Corp., Sprowls Hrs. 1	*	....
Newland 1	4	....
Carnegie Natural Gas Co., Ewing 1	*	....
H. V. Sprowls & Co., Sampson 1	*	....
Union Gasoline Oil Corp., Stout 1	¶½	....
BUTLER COUNTY—		
M. B. Finnessy, Leisy 12	*	....
GREENE COUNTY—		
Philadelphia Natural Gas Co., Stephens 1	¶1¼	....
SOMERSET COUNTY—		
American Natural Gas Co., Miller 1	¶2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
A. H. Ashworth, Ashworth 1	¶¼	....
C. M. Lippert & Co., Lippert 1	¶2	....
Ryder-Richmond Oil Corp., Ryder 1	¶3	....
Ryder 2	3	....
C. L. Wann & Co., Wann 1, 2	pressure	....
Martin Bros., Childs 1	*	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
Chemical Oil Co., Yoak 2	¶½	....
CABELL COUNTY—		
Madison Gas Co., Holton 1	¶½	1375
WETZEL COUNTY—		
Manufacturers Light & Heat Co., Byard 3468	¶1¼	3233
Newman 2	¶½	3250
HARRISON COUNTY—		
Reserve Gas Co., Williams 157	¶¼	3262
Hope Natural Gas Co., Morris 2	¶1	2850
RITCHIE COUNTY—		
R. B. Roberts, Hammond 1	2	....
Daniel O'Day Estate, Deems 5	5	....
D. J. Gribble, Taylor 1	¶¼	....
PLEASANTS COUNTY—		
First Nat. Bank of Marietta, Boyd Hrs. 8	4	367
MINGO COUNTY—		
United Fuel Gas Co., Central Trust Co. 4300	¶1½	1550

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MORGAN COUNTY—		
Chas. Finley & Co., Fee 2	*	210
Ohio Fuel Gas Co., Hallowell 2	¶¼	1665
Ott Haldman & Co., Doyle 2	¶¼	1201

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ATHENS COUNTY—		
Standard Natural Gas Co., Young 4	¶¼	1048
ASHLAND COUNTY—		
Ohio Fuel Gas Co., Heifner 1	¶¼	....
MUSKINGUM COUNTY—		
Frits Oil & Gas Co., Bozer 1	¶1½	4033
Swingle 1	50	4250
STARK COUNTY—		
East Ohio Gas Co., Strouble 1	¶1½	4367
Ohio Fuel Gas Co., LeBeau 1	¶5	....
LORAIN COUNTY—		
McMillan & Co., Adkins 1	¶½	2675
WAYNE COUNTY—		
Ohio Fuel Gas Co., Wohlgamuth 1	¶½	....
Edington & Co., Edington 1	*	587
Bryan & Co., Brinkerhoff 2	*	730
SUMMITT COUNTY—		
East Ohio Gas Co., DeWalt 2	*	4074
VINTON COUNTY—		
Kelch Bros., Backus 2	¶1	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WYANDOT COUNTY—		
Woods & Co., Troup 1	*	1575

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
KNOX COUNTY—		
King Engineering Co., Snapp 1	¶¼	....
Unknown Parties, Hall 1	¶½	700
Parker & Lloyd, Hall 1	*1	....
Gardner Petroleum Co., Blann Estate 1	¶1	....
DAVIESS COUNTY—		
Norris & Patterson, Batchelor 1	*	780
SPENCER COUNTY—		
E. M. Treat Co., Bretz Hrs. 1	35	1313
PERRY COUNTY—		
Moorehead & Blank, Gruver 1	5	278
SULLIVAN COUNTY—		
Rendall & Co., Kinder 1	5	....
Wade Connelly, Holden 1	*	825
James C. Ellis & Co., Jewell 1	¶½	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
HART COUNTY—		
Jess Watts & Co., Caudill 3	300	....

TEXAS

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Bridwell Oil Co., L. F. Wilson 1	*	2465
King-Hayes & Burns, Churchwell 1	*	1428
King-Hays & Looney, Churchwell 1	50	1162
W. C. Young-Deep Oil Dev. Co., Plowman 1	*	2254
WICHITA COUNTY—		
Culberson Co., Waggoner 70	*	399
Waggoner 71	2	378
Waggoner 72	*	400
YOUNG COUNTY—		
Brachter et al, Finch 1	*	720
E. H. Sharp et al, Faith 1	*	1306

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
FISHER COUNTY—		
Stanolind O&G Co., Steele 2	410	3193
JONES COUNTY—		
Union Oil Co. (Nevada), S. W. King 2	*	2103
LOVING COUNTY—		
Pete Hoffman et al, Ramsey 2	150	4219
WARD COUNTY—		
Gibson Bros. et al, M. L. Johnson 1	*	2503

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CHEROKEE COUNTY—		
Ben Banner et al, A. S. Lacy-Williams 1	*	4347
RUSK COUNTY—		
Stevens & Turner, Pickett 1	*	3456
SMITH COUNTY—		
Imperator Oil Corp., I. M. Green 1	*	2210

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Peck et al, Muse 1	*	850
COLEMAN COUNTY—		
Anzac Oil Corp. et al, Guthrie 1	*	1652
Anzac & E. W. Moutray, Featherstone 1	*	1200
Bartlett & Dozier, Rendleman 2	¶34-2	2260
C. C. Harpham et al, Harper 1	*	1304
Prairie O&G Co., Gray 1	*	2515
Taylor-Link Oil Co. & Anderson, Stewardson 1	*	1730
JOHNSON COUNTY—		
City of Alvarado, Water Works Fee 1	*	1677

CENTRAL EAST TEXAS

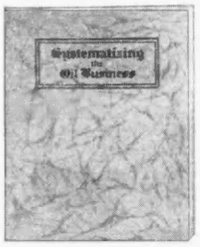
Company, Well and Location	Initial Production Bbls.	Depth
JOINER FIELD—		
Bowser & Beckett, J. E. Wheelis (8-ac) 1	6000	3806
Earl Calloway et al, L. Harmon 3	4500	3797
Champlin & Bass, Inc., Mason 1	6000	3675
Cochran & Martin, A. Thrash 1	5000	3750
Verne Dumas Pet. Co., S. S. Cook (35-ac) 1	2000	3711
Golding-Murchison Oil Co., L. J. Pinkston (15-ac) 1	5000	3685
Gulf Prod. Co., G. G. Turner 3	6000	3755
W. B. Hamilton et al, Gambrell (54-ac) 2	12,000	3685
Humble O&R Co., J. R. Box 1	12,000	3795
Kangerga 10	7500	3697
Kangerga 12	12,000	3691
W. P. Moore 2	10,000	3773
W. L. Price 1	9000	3778
Plowman 5	6500	3705
R. E. L. Silvey 1-A	7000	3786
C. J. Thompson 5	4000	3690
J. H. Wooley 4	8000	3705
H. L. Hunt et al, B. F. Maxwell 2	Junked	2920
W. P. Moore 1	5500	3670
M. L. Thompson 1	5500	3740
Mid-Kansas O&G Co., S. H. Moore 4	2500	3678
J. J. O'Hearn et al, McMillan 1	9000	3760
Sun Oil Co., E. O. Henson (54-ac) 1	4000	3680
J. A. Layne (103.7-ac) 1	6000	3657
The Texas Co., L. J. Pinkston 2	7000	3656
G. G. Turner 1	350	3715
Tidal Oil Co., H. M. Hale 2	1500	3638
KILGORE FIELD—		
Barnsdall Oil Co., D. Smith 1	7500	3606
Cordova Union Oil Corp. et al, Jack Bean 2	7500	3667
Cranfill-Reynolds Co., Clayton Heirs 1	15,000	3685
Gulf Prod. Co., J. B. Watson 4	8000	3561
Heep Oil Corp.-Houston Oil Co., Givens 1-A	12,000	3634
Houston Oil Co., E. Thompson (39-ac) 1	4500	3693
Humble O&R Co., L. D. Crim 28	8400	3693
L. D. Crim 29	9500	3700
L. D. Crim 30	6500	3688
T. D. Humphrey et al, A. Spear (23-ac) 1	9600	3576
L. O. Macmillan et al, Leverett (38-ac) 2	5000	3697
Magnolia Pet. Co., M. E. Peterson 2	6000	3617
Dick Wells 5	3500	3684
Republic Prod. Co., H. P. Leverett 2	8000	3662
Shell Pet. Corp., J. B. Watson 4	6500	3651
J. B. Watson 8	6500	3629
J. B. Watson 9	6500	3615
Stanolind O&G Co., M. E. King 2	5500	3732
Sun Oil Co., Wm. Pentecost (131-ac) 1	9000	3634
C. H. Hilburn-Chas. Lloyd (133-ac) 1	6500	3680
C. H. Hilburn-Chas. Lloyd (133-ac) 2	6600	3646
The Texas Co., Wiley Davis 2	10,000	3566
LONGVIEW FEILD—		
Magnolia Pet. Co., J. W. Free 1	10,000	3659
Howard Hampton 4	9500	3631
J. C. McKinley (40-ac) 4	12,000	3642
Sun Oil Co., J. T. Loden 1	8000	3670
Yount-Lee Oil Co., Denson 2	8000	3654
Lewis Lee 1	7000	3618
VAN FIELD—		
Pure Oil Co., J. M. Martin (134½-ac) 1	*	3020

GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
The Texas Co.'s Wilburn 4 wo	75	5250
MARKHAM—		
Hamil et al's Sisk 1	20	3250

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BEE COUNTY—		
Grebin & Woods, Riggs 1	*	5650
CALDWELL COUNTY—		
Rayor et al, Dunlop 1	30	2480
KLEBERG COUNTY—		
Barbee & Hunter, Finnegan 1	*	3031
SAN PATRICIO COUNTY—		
Saxet Oil Co., White Point Dev. Co. 4	*	3398
STARR COUNTY—		
Los Olmos Oil Co., Kelsey Bass 5	25	431
WEBB COUNTY—		
Southern Gas Utilities Co. & E. A. Sterling, de la Garza 1	¶14	2212
SR & C & Frank Zock, Cuellar 1	*	2450
ZAPATA COUNTY—		
A. R. McLennan, Cuellar 3	50	1582



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HUNTINGTON BEACH—Paul Edward Hatten, No. 1, 35-5-11.

SOUTH MOUNTAIN—H. H. Bell, No. 1, 23-3-21.

TEHAMA COUNTY—Crockett Drilling Syndicate, No. 3, 20-24-5.

Ventura—Bolsa Chica Oil Corp., Louis Hartman 6, 22-3-23.

LOUISIANA

CADDO PARISH—W. P. Wallace, agt., Shreveport, Cunningham-O'Connor 2, 15-17n-14w, 280 ft e and 210 ft s of nw cor ne¼ nw¼ of nw¼.

CAMERON PARISH—J. G. Sutton & Gulf Refg. Co., Shreveport, M. P. Erwin 2, 13-12s-10w, 1850 ft w and 200 ft n of se cor ne¼ of se¼.

OUACHITA PARISH—Ark.-La. Pipe Line Co., Shreveport, McEnery 7, 29-19n-4e, 700 ft n and 700 ft of se cor of sec.

OKLAHOMA

CARTER COUNTY—Carter Oil Co. et al, Ratcliff 1, nw c sw, 19-1s-2w.

HASKELL COUNTY—Sooner O&G, Perral 1, c ne se 9-7-20e.

MUSKOGEE COUNTY—P. Boyle et al, Barnett 2, sw c ne nw 35-16-15e.

NOBLE COUNTY — Magnolia Pet. Co., Summer 4, sw c nw 4-20-1w.

OKLAHOMA COUNTY — Wilcox O&G, Lowe 1, nw c ne nw nw 10-11-3w. Capitol Prod. & Refg., Hills 1, se c ne se 4-11-3w. Phillips Petroleum Co., Dehn 1, nw c sw ne 3-11-3w.

PONTOTOC COUNTY—Meyers and Atkins, Myers 1, ne se se 21-5-6e.

KANSAS

ELK COUNTY—Denton et al, Donnel 1, c nw se, 12-30-9e.

McPHERSON COUNTY—Wolf Creek Oil Co. et al, McMurray 1, ne c 1-20-2w.

TEXAS

ARCHER COUNTY—L. T. Burns, Wichita Falls, R. E. Churchwell, 120, 1, B 145, J. W. Harris sur, 908 ft from n and 150 ft from w line. H. B. Wallace, Wichita Falls, Fee, 160, 9, S.P. Ry. sur, 150 ft from s and w lines.

BURLESON COUNTY—E. R. Marts, Dallas, W. A. Boyett, 300, 1, Wm. McWilliams sur, 300 ft from nw and 1500 ft from ne line.

COOKE COUNTY—Three H Drilling Co., Muenster, C. M. Martin, 73½, 1, E. Reed sur, 150 ft from s and w lines.

GREGG COUNTY—Mid-Kansas O&G Co., Shreveport, J. M. Blackman, 79, 6, W. P. Chisum sur, 320 ft from n and 330 ft from e line. Barkley & Meadows and King Royalty Co., Wichita Falls, J. Flemister, 11, 1, G. W. Hooper sur, 205 ft from n and 222 ft from w line. Texas Co., Shreveport, M. T. Cole, 192, 2, E. L. Walker sur, 162 ft from n and 968 ft from e line. Thompson et al, Tyler, Clayton Est., 7, 1, L. B. Outlaw sur, 138 ft from s and 480 ft from w line. J. E. Harper, Tyler, J. H. Shepperd, 6, 1, T. Allen sur, se corner; J. E. Shepperd 2, nw corner. C. H. Smith, Dallas, Geo. Muckelroy, 14, 1, Selby Oil & Gas Co., Tulsa, L. C. Ingram, 80, 1, W. E. Pastures sur, 200 ft from s and w lines. Tarkington & Reynolds, Tyler, A. Jackson, 50, 1, J. Taylor sur, 1000 ft from n and 200 ft from e line. A. D. King, Longview, R. P. Doby, 5, 1, Irwin sur, 250 ft from n and 259 ft from w line. Sinclair Oil & Gas Co., Fort Worth, A. A. King, B, 111, 1, J. G. Walker sur, 710 ft from w and 990 ft from s line; A. A. King, A, 290, 3, P. W. Warraner sur, 485 ft from s and 1160 ft from e line; M. Moncrief, 252, 6, W. H. Castleberry sur, 1700 ft from n and 1375 ft from w line; 5, 1860 ft from n and 2575 ft from w line; M. T. Cole, 666, 6, S. Brooks sur, 1364 ft from e and 664 ft from n line; 7, 1364 ft from w and 664 ft from n line; 8, 1376 ft from e and 1991 ft from s line; 9, 1991 ft from n and 1365 ft from e line; 10, 664 ft from n and 1365 ft from e line. Magnolia Pet. Co., Dallas, M. B. Hughey, 80, 2, Wm. McCurry sur, 392 ft e of No. 1. Mid-Kansas Oil & Gas Co., Shreveport, J. S. King, 80, 1, M. Van Winkle sur, 208 ft from n and 1935 ft from w line. Gulf Prod. Co., Houston, S. G. Andrews, 75, 3, W. F. Hyde sur, 313 ft from s and 173 ft from w line; S. Hilburn, 200, 1, L. B. Outlaw sur, 1216 ft from s and 180 ft from e line. Sun Oil Co., Dallas, J. R. Beall, 180, 5, W. P. Chisum sur, 1725 ft from w and 2130 ft from s line; 6, 1410 ft from w and 1427 ft from s line. Humble Oil & Refg. Co., Houston, W. W. Holland, 245, 3, T. Allen sur, 681 ft from e and 2475 ft from s line.

For Tabulation and Comparison See Market Section

GRAYSON COUNTY—F H E Oil Co. and Flemming & Kimbell, Fort Worth, H. C. Potts, 200, 2, I. Southward sur, 450 ft from n and 660 ft from w line.

LOVING COUNTY—Slack & Slack, Pecos, W. B. Lynd, 40, 1, S 3, B 2, W&NW sur, 330 ft from s and 1165 ft from e line of sec.

MEDINA COUNTY—D. E. Genard, San Antonio, L. Crawford, 1, No. 478 J. Keppler sur, 150 ft from n and w lines.

McLENNAN COUNTY — C. E. Groover, Waco, E. M. Wilbanks, 456, 1, S 5, R 2, T. Vega sur, 2330 ft from s and 160 ft from e line.

PALO PINTO COUNTY — Hoffman & Page Co., Eastland, J. B. Hash, 4½, 1, Shrawn sur, 147 ft from n and 150 ft from e line.

PARKER COUNTY — J. O. Kile, Fort Worth, G. T. Leonard, 107, 1, J. Thompson sur, 300 ft from w and 980 ft from s line.

POLK COUNTY — Trans-Coastal Oil Co., Houston, M. E. Roberts, 4000, 1, J. F. Rurmayor sur, 350 ft from w and 150 ft from n line.

RUSK COUNTY—Frank Russell, Overton, Texas, J. S. Powers, 8, 1, Jno. Womack sur, 225 ft from s and 215 ft from e line. Humble Oil & Ref. Co., Houston, C. J. Thompson, 166, 6, M. J. Pru sur, 150 ft from w and 317 ft from s line. I. Holt, 94, 1A, Geo. Berry sur, 401 ft from s and 551 ft from e line. S. A. Plowman, 228, 7, F. Cordova sur, 1266 ft from n and 330 ft from w line. M. Kangera, 116, 11, M. J. Pru sur, 185 ft from n and 395 ft from e line. H. White, Jr., 49, A1, J. M. Scott sur, 990 ft from n and 262 ft from e line. H. White, 134, B1, J. M. Scott sur, 262 ft from w and 990 ft from n line. R. E. L. Silvey, 209, B1, T. J. Martin sur, 1100 ft from w and 1118 ft from s line. W. L. Price, 200, 2, J. M. Scott sur, 262 ft from e and 990 ft from n line. L. R. Lindsey, 45, 1, J. M. Barton sur, 330 ft from w and 380 ft from n line. C. E. Christian, 277, 3, W. W. Simms sur, 2819 ft from n and 330 ft from e line; 4, same sur, 2127 ft from n and 330 ft from e line. D. C. Joiner, 74, 1, F. Cordova sur, 150 ft from n and 1200 ft from w line. M. Kangera, 116, 13, M. J. Pru sur, 2054 ft from w and 1359 ft from n line. R. H. Laird, 112, 3, W. P. Chisum sur, 350 ft from nw and 443 ft from sw line. Marine Corp., Dallas, N. B. Bean, 50, 5, I. Ruddle sur, 150 ft from s and e lines. Sinclair Oil & Gas Co., Fort Worth, F. B. Wilson, 124, 2, McAnulty sur, 1630 ft from s and 611 ft from e line. W. D. Kinney, 579, 4, J. B. Cadena sur, 650 ft from n and 1186 ft from e line; 5, same sur, 745 ft from e and 1167 ft from s line; 6, same sur, 1173 ft from n and 1213 ft from e line; 7, same sur, 1125 ft from e and 1173 ft from s line. Mayfield, B, 149, 2, J. B. Cadena sur, 660 ft from s and 1268 ft from e line; 1, same sur, 660 ft from n and 1225 ft from w line. Stanolind Oil & Gas Co., Longview, O. H. Grissom, 30½, 1, F. Cordova sur, 432 ft from w and 330 ft from s line. J. R. Beall, 83, 2, Wm. Chisum sur, 200 ft from n and e lines. C. O. Christian, 53, 1, W. R. Cooke sur, 250 ft from s and e lines. J. Combination Oil & Gas Co., Amarillo, G. Thompson, 1, 1, M. Y'Barbo sur, center. Magnolia Pet. Co., Dallas, G. Davis, 25, 5, W. P. Chisum sur, 73 ft from w and 179 ft from s line. Gulf Prod. Co., Houston, R. Russell, 40, 3, R. W. Smith sur, 450 ft from n and 175 ft from e line. O. H. Grissom, 100, 4, F. Cordova sur, 250 ft from w and 127 ft from s line. W. P. Keeling, A, 53, 4, F. Cordova sur, 318 ft from s and 275 ft from e line. W. A. Maxwell, 81, 2, F. Cordova sur, 150 ft from n and 162 ft from w line. Corrected locations. G. G. Turner, 1, F. Cordova ½ sur, 359 ft w of center of e line. R. Russell, 40, 3, R. W. Smith sur, 550 ft from n and 175 ft from e line. Geo. Guthrie et al, San Antonio, I. P. Perry, 28, 1, Cook & Ryard sur, 150 ft from n and e lines. Paul Vitek, Fort Worth, M. R. Irion, 50, 1, M. Hughes sur, 165 ft from s and e lines. Spandsco Oil & Royalty Co., Dallas, J. Bell, 36, 1, S. P. Hollingsworth sur, 250 ft from n and e lines. Texas Co., Shreveport, J. W. Wilson, 134, 2, D. Collins sur, 510 ft from e and 350 ft from s line. F H E Oil Co., Fort Worth, M. L. Thompson, 5, 1C, F. Cordova sur, 165 ft from n and 330 ft from e line. Smith Bros. et al, Tyler, Church of God, 1, 1, Wm. Chisum sur, 73 ft from e and 188 ft from s line.

REEVES COUNTY—Snow & Jensen, Grand Saline, B. E. Cassels, 640, 1, S 58, B 71, School sur, se corner.

REFUGIO COUNTY—Humble Oil & Ref. Co., Houston, M. V. O'Connor, 1, Jno. Keating sur, 12625 ft from s and 7225 ft from e line of survey.

SMITH COUNTY—Sinclair Oil & Gas Co., Fort Worth, A. S. Jarvis, A 266, 3, J. Vargas sur, 1388 ft from s and 1383 ft from e line; 2, same sur, 278 ft from s and 226 ft from e line. Mayfield, 374, 1, Jas. Jordan sur, 3625 ft from n and 2194 ft from e line; 3, same sur, 820 ft from n and 2305 ft from e line; 4, same sur, 330 ft from s and 439 ft from e line. A. S. Jarvis, B, 217, 4, J. Vargas sur, 2332 ft from s and 778 ft from e line. A. J. Adams, Tyler, T. O. Wright, 12, 1, J. Vargas sur, 67, ft from n and 150 ft from e line. Sun Oil Co., Dallas, O. W. Knight, 264, 2, D. Collins sur, 350 ft s of center of n line. Ben Banner, Fort Worth, L. White, 1, S 234, A. H. Scott sur, 1500 ft from n and 1000 ft from e line sur. Ty-Tex Oil & Dev. Co., Tyler, A. Wolders, 140, 1, 800 ft from n and 180 ft from e line. L. B. Keith, Oklahoma City, T. O. Wright, 1½, 1, J. Vargas sur, 152 ft from n and 111 ft from e line.

SAN PATRICIO COUNTY—Jacob, Buzzini & Pickett, San Antonio, J. C. Baldwin, 160, 2, T. Amarro sur, 1320 ft from n and e lines of Blk 9.

UPSHUR COUNTY—A. D. King, Longview, D. T. Loyd, 6½, 1, D. Sanchez sur, 250 ft from e and 150 ft from s line.

VAN ZANDT COUNTY—Pure Oil Co., Fort Worth, F. B. Smith, 80, 8, J. Walling sur, 150 ft from e and 469 ft from s line. J. M. Martin, 134, 2, J. Stephenson sur, 225 ft from n and 675 ft from e line. W. F. Swain, 48, 2, J. Walling sur, 200 ft from s and e lines.

MARD COUNTY—S. J. Rixford et al, Grand Falls, J. H. Merritt, 6, 1, S 11, B 5, H&TC sur, 150 ft from s and e lines.

WOOD COUNTY—Woodco Oil & Gas Co., Alba, G. Davis, 160, 1, S. McDonald sur, 1800 ft from w and 208 ft from s line.

YOUNG COUNTY—O. Bratcher, Loving, N. R. Finch, 40, 1, 33, TE&L sur, 150 ft from n and e lines.

Wildcat Reports From All Sections

▼ ▼ ▼

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
SAN LUIS OBISPO COUNTY—		
C. Shockley's No. 1, 13-21-13.....	*	3115

KERN COUNTY

BELRIDGE—Belridge Oil Co.'s No. 27-64, 27-27-20, dr 4945 ft; No. 35-8, 35-27-20, preparing to complete, td 5416 ft; No. 35-48, 35-27-20, dr shale 5010 ft. Continental's Result 2, 36-27-20, circulating, to complete, td 5253 ft. General Pet.'s Berry 1, 30-28-21, sr 5275 ft. Standard's McPhail 2, 36-27-20, dr gray sand 5685 ft. K. C. Wallace's No. 1, 32-29-21, dr out cmt, td 4212 ft.

BUTTONWILLOW—Wilshire Oil Co.'s Nordon-Salisbury 1A, 7-29-24, co 6990 ft, hole caving.

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 2, 21-26-18, dr shale 200 ft. Standard's Alferitz 1, 14-25-18, pumping oil and water, td 3206 ft.

McKITTRICK—California Oil Producers' No. 2 30-30-22, dr hard sand 3355 ft.

TEMBLOR HILLS—Kent and McDonald's No. 1, 3-32-22, dr hard brown shale 1825 ft.

WEED PATCH—Mohawk Oil Co.'s Earl 1, 4-31-29, rigged to sp. Osborn and Colter's Shell-Duff 1, 15-30-29, swabbing sand and water, td 3814 ft; Duff 1, 15-30-29, dr hard sand 1600 ft. Shell's Morris 1, 32-30-29, may abn, td 5977 ft; Porter-Day 1, 29-30-29, swabbing oil, plugged to 5910 ft.

SANTA BARBARA COUNTY ....

GATO RIDGE—Barnsdall's Tognazzini 1, 9-8-32, completed as 1000-bbl well and shut in, td 6510 ft, plugged to 2510 ft.

GOLETA—General Pet. Corp.'s More 3, dr shale 5720 ft. George W. Johnson's Duncan 1A, 19-4-27, co 3730 ft.

GUADALUPE—Sovereign Oil Co.'s Donovan 1, 20-10-35, fsh for drill pipe 5450 ft.

LOS ALAMOS—N. S. Wilson's Midwest 1, 2-7-33, dr shale 2819 ft.

ORELLA—General Pet.'s Erburo 10, dr red shale 3075 ft. Oakburn Oil Co.'s Sperry 1, co 2821 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, swabbing on production test, some oil on top of water, td 6769 ft.

VENTURA COUNTY

CONEJO—Triunfo Oil Co.'s No. 1, 24-1-19, dr shale 2500 ft.

RINCON—Chanslor-Canfield Midway Oil Co.'s Hobson A2, 23-3-24, plugged to 8050, td 10,030 ft, sd. Continental's Grubb 1, 23-3-24, dr gray sand 5528 ft.

SANTA PAULA—San Pedro-Pt. Fermin's Kellerman 2, 13-4-21, pulling 4¾-inch cas, td 3410 ft, may deepen.

SESPE—Superior's Kirtlan 14-1, 14-4-21, dr shale 7565 ft.

SOUTH MOUNTAIN—H. H. Bell's Lemon 1, 22-3-21, lcn.

TIMBER CANYON—Petro Well Producing Co.'s No. 4, 18-4-20, rigging up rotary, td 1100 ft.

MISCELLANEOUS

FRESNO COUNTY—Associated's Mitchell 1, 22-21-15, dr gray sand 5685 ft.

KINGS COUNTY—L. W. Seymour's No. 1, 10-23-16, co 1010 ft. T. H. Purman's Avenal 1, 36-23-17, dr shale 4035 ft. Kettleman Lakeview Oil and Gas Co.'s No. 1, 20-23-20, dr shale 2015 ft. Valley Exploration Co.'s Brennan 1, 20-23-20, bailing and co 3750 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 6900 ft.

SAN LUIS OBISPO COUNTY—A. T. Jergins' No. 1, 6-32-13, dr shale 800 ft. Cities Service Pet. Co.'s No. 1, 20-28-15, will abn at 1527 ft.

TULARE COUNTY—Ellis and Stanford's No. 1, 20-24-23, dr shale 1050 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports; *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn — abandoned; bbls—barrels; b.s.—basic sediment; cas —casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in. —inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd — shut down; sdtr — sidetracking; sp — spudding; sr — straght reamng; std — standardizing; sw—salt water; td—total depth; ur—underreaming; wo — workover; wosr—waiting on standard rig.

SOUTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
REPETTO HILLS—		
Texas' F. M. 1, 4-2-12.....	*	4890

ALHAMBRA — Yellowstone Oil Corp.'s Huntington Land 1, 24-1-13, dr shale and streaks oil sand, will continue test at 3835 ft; Construccio 1, 19-1-12, dr shale and sand 1300 ft.

CALABASAS—L. W. Rucker's No. 1, 26-1-17, co 290 ft, to deepen.

FULLERTON—Standard's Bastanchury 1, 21-3-10, flowing oil and water above plug at 7625 ft, td 8144 ft.

HAWTHORNE—The Alondra Co.'s No. 1, 23-3-14.

HERMOSA BEACH—Cone and Smith's K-B 2, 6-4-14, lcn; K-B 3, 6-4-14, lcn. S. H. Human's No. 1, 6-4-14, lcn.

NEWHALL—W. T. Ball's No. 1, 34-3-16, lcn. Guarantee Oil Co.'s Hammond 1, dr shale 3175 ft. Rayne Oil Co.'s No. 1, 11-3-16, rigging up.

NEWPORT—Nuoil Co.'s Gessell 2, 29-6-10, dr 250 ft. Standard's Irvine 1, 26-6-10, coring 5365 ft.

OLINDA—Graham-Loftus Oil Co.'s No. 1, 18-3-9, testing at 9079 ft.

PLAYA DEL REY—Mesmer City Realty Co.'s No. 1, 24-2-15, sr 6420 ft.

PUENTE—El Dorado Oil Co.'s Baird 1, 30-2-9, dr hard sand 1580 ft.

SAN FERNANDO—El Caballero Estates Co.'s No. 1, 23-1-16, dr out cmt 905 ft.

SUNSET BEACH—Gieck Oil Corp.'s No. 1, 20-5-11, dr shale 5728 ft.

WILMINGTON—York and Smullin's Watson 1, 29-4-13, plugged to 3970 ft, testing.

YORBA LINDA—International Pet. Corp.'s Fricke 1, 21-3-19.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
SABINE PARISH—		
Texas Co., Landrum 1, 38-8-11.....	500	2377
W. M. Coates, Williams 1, 23-7-11.jnked		2808
WEST CARROLL PARISH—		
United Gas Pub. Serv. Co., Pioneer Cooperage 1, 29-21-9e.....	dry	3277

BIENVILLE PARISH—Arcadia Drilling Co.'s Atkins 1, 28-18-6w, sd in shale and gumbo laying water line td 1165 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, cemtd 4½ cas 2882 ft flowing est 5 to 15 blls oil daily by heads thru 2-in tub td 2890 ft. Rambaugh et al's Allison 1, 10-19-13, sd 1100 ft. Flint River O. & G. Co.'s DeMoss 1, 22-22-13, cemtd 6⅝ cas 3028 ft. Dr. Hankins et al's Newell 1, 12-19-11, dr 1380 ft. D. L. Perkins et al's Ardis 1, 13-15-11, 10-in 120 ft sd.

CADDO PARISH—Pelican Nat. Gas Co.'s Cooper 1, 29-18-14, ta in red shale and lime 3648 ft. United Gas Pub. Serv. Co.'s Smith 1, 33-23-16, dr 5235 ft. W. P. Wallace Tr.'s Cunningham-O'Connor 2, nw nw 15-17-14, lcn.

CALDWELL PARISH—Monroe Pet. Corp.'s Burton 1, 36-12-2e, sd acct titles td 2986 ft. Carter Bell et al's Taylor 1, 17-14-4e, dk.

DE SOTO PARISH—Rellitt O. & G. Co.'s Cannon Hrs 1, 12-11-16, sd 1410 ft. W. H. Weichert's Smith 1, 31-14-15, sd 2350 ft. E. T. Oakes' Johnson 1, 3-13-15, sd in chalk 1997 ft. Walters & Nicholson's Jim Guy 1, 3-11-13, sd 700 ft. S. S. Meek, Tr.'s Wagner 1, se se 5-12-14, dk.

NATCHITOCHES PARISH—C. M. Talley et al's Talley 1, 29-11-10, sd 1380 ft dry. W. M. Coates et al's Collins 1, sw nw ne 28-9-10, base Midway chalk 2612 ft base hd lime 4039 ft tested 15 joints mud and sw 4020-91 ft to 4091 ft. J. W. Cooper et al's Cooper 1, 35-11-10, sd 3156 ft. Cooper 2-A, 35-11-10, sd 1515 ft.

RED RIVER PARISH—Mack Jourdan Co.'s Lockett 1, 32-13-10, dr 2300 ft.

SABINE PARISH—Langbridge Oil Corp.'s Stephens 1, se ne 17-9-11, dr hd chalk 2065 ft. Houston-Sabine Prod. Co.'s Sabine 1, 36-8-12, sd 2440 ft. J. J. Kean's Belton 1, 31-9-13, 8-in cas 1590 ft sd 1610 ft. H. W. Perritt's Bowman-Hicks 4, 2-7-12, sd 2502 ft. Bowman-Hicks 5, 2-7-12, lcn. A. H. Thames' Edwards Est. 1, 8-8-13, sd 1200 ft. R. L. Gay, Tr.'s Long-Bell A-1, nw nw 10-8-13, sr to make ds test 3630 ft. Ohio Oil Co.'s Bowman-Hicks 9, 35-8-12, lcn. Bowman-Hicks 10, 35-8-12, lcn. Bowman-Hicks 11, 2-7-12, lcn. Sabine Royalties Co. Inc.'s Bill Hill 1, 5-7-11, wosr 2546 ft. Diffie & Barrett's Lites 1, 34-8-11, 10-in 105 ft sd. Hudson & Bird's Walden 1, sw ne 26-8-11, rig. Hawkins et al's Moran 1, se ne 1-7-11, 400 ft oil hole wosr td 2620 ft. Hawkins & Antoon's Newton 1, se ne 1-7-11, 6-in 2402 ft. sd 2550 ft. Lyons & Neeley's Duggan 1, 14-7-11, lcn. Texas Co.'s Landrum 1, ne se 32-8-11, 6⅝ cas 2236 ft flowing 500 bbls oil day thru ½-in choke td 2377 ft. Nabors 1, ne se 2-7-11, rig. W. M. Coates' Williams 1, ne ne 23-7-11, ds hung junked abn td 2808 ft. Hale 1, sw ne 1-7-13, cemtd 6-in cas 2080 ft td 2093 ft. Magnolia Pet. Co.'s Peterson 1, ne ne 10-7-11, 12-in 130 ft sd 643 ft. L. K. McGuffin's Bush 1, 1-7-11, sd 400 ft. Zeke Lohman's McCormick 1, ne sw 2-7-11, dr 1200 ft. Ben Merritt's Byrd 2, 1-7-11, 10-in 88 ft sd. Roy Baker's Sabine 1, 11-7-12, fsh bailer td 2440 ft. Loring Oil Co.'s Bowman-Hicks 16, 3-7-12, cemtd 6⅝ cas 2330 ft. Bowman-Hicks 17, 16-7-12, sp 15½ cas 110 ft dr 1100 ft (6000 ft test). Gautier et al's Meshell 1, se nw 30-8-12, dr 6-in plug to 2220 ft.

UNION PARISH—Don Brooks, Tr.'s Douglas 1, ne sw 9-22-2w, dk. T. P. Fields, Tr.'s Summitt Land Co. 1, 1-21-1w, dr 1210 ft.

WEBSTER PARISH—D. M. Coyle's Frazier 1, 27-23-11, dk. Cassidy & Davis' Nickerson 1, 29-23-10, sd 160 ft.

WEST CARROLL PARISH—United Gas Pub. Serv. Co.'s Pioneer Cooperage 1, 29-21-9e, dry abn td 3277 ft.

WINN PARISH—Gulf Ref. Co.'s Bodcaw Lbr. Co. A-1, 4-10-5w, dr gray lime 3265 ft.

SOUTH TEXAS

ATASCOSA COUNTY—George Keith, Jr.'s Mrs. G. M. Martin 1, 3 mi s Amphion, fsh 2100 ft.

BASTROP COUNTY — Schimmel & Batts' (Texas Pet. Co.) Williams 2, J. Doyle sur, coring 1130 ft. Smith and Bruns' Marburger 1, King and Millett sur, dr about 500 ft. Tex Dev. Co.'s Ray 1, Thomas Christian sur, ur.

BEE COUNTY—Alexander et al's McFall 1, 3 mi s Skidmore, sd 1510 ft. Cosden Oil Co. & Rowan and Tong's Freeland 2, John Pace sur, west Cosden pool, test 270 ft salty mud on

drill stem test 3696-3706 feet, now sd. Grebin and Woods' Riggs 1, James Nowland sur, 6½ mi w Skidmore, abn 5650 ft. J. S. Mauldin's Mauldin 1, G. A. Kerr sur, sd 3930 ft. Mineral Oil Co.'s A. J. Kimball 1, Stephin Winship sur, sd 3543 ft. United Prod. Co.'s Ray 39, T. Hanson sur, sp.

BLANCO COUNTY—Hardy Sitton's Standeford 1, sur 155, 3½ mi nw Blanco City, sd 970 ft; McMillen 1, sur 125, 2 mi w Blanco City, sd 686 ft. Forest Oil Co.'s Hohenberger 1, sur No. 94, sd 712 ft.

BROOKS COUNTY—Ike Howeth et al's Singer 1, sur 436, no report.

CALDWELL COUNTY — Mills and Chapman's McMahon 1, Pinchback sur, 6 mi se Lockhart, fsh 2490 ft. Rayor et al's Dunlop 1, Solomon Sear sur, near Luling, total depth 2480 ft in Buda lime after plugging back from 2515 ft in Edwards lime, casing set on packer at 2145 ft, pump about 30 bbls. Joe Bruner's Malone 1, A. Floyd sur, 2 end Bruner field, dr around 2300 ft.

COMAL COUNTY—Caldwell and Lanier's T. J. Byler 1, sur No. S-894, 10 mi s Blanco City, dr 700 ft.

DE WITT COUNTY—Gibson & Strum's Clark 1, Dolores Aldrete sur, 3 mi s Yorktown, rigged up and sd.

DUVAL COUNTY—John F. Camp & Southern Crude Oil Pur. Co.'s Hubbard 1, sec 75, 2½ mi e S & O pool, dr below 100 ft after setting surface cas. Humble O&R Co.'s Kohler 50, sur 164, Kohler pool, total depth 6901 ft, make drill stem test, resume dr. S. J. Carpenter's Benavides 1, sec 1, blk 38, Mesquite sur, sd 1725 ft. O'Byrne et al's Weil Bros. 1, sur 568, 7 mi sw S & O pool, tested sand 2800 ft, no further report. Coffee et al's Garza 1, center sur 49, dr.

GOLIAD COUNTY—Neuhaus Dr. Co.'s Pettus 1, Maria de Jesus Ybarbo sur, dr out plugs, total depth 4298 ft.

GUADALUPE COUNTY — Adams, Lysles, North and Walton's A. Zobrowski 1, J. D. Clements sur, sd 2212 ft, reported flowing about 8 bbls daily by heads. Harry Bruner's Jim Sherrill 2, Geo. Allen sur, near Staples, sd 190 ft for new rig. C. McGarrity et al's Wesch 1, H. M. Thompson sur, dr below 1000 ft. Linne et al's Linne 1, V. Cortario sur, mov on rig.

HAYS COUNTY—J. C. Jones et al's Byler 1, John Ingram sur, sd 925 ft.

HIDALGO COUNTY—Dayle L. Smith Oil Co.'s Fernandez 5, sd 4026 ft.

JIM HOGG COUNTY—D. C. Dewitt's T. Gomez 1, sec 12, sd 400 ft. Cole Pet. Co.'s Palacios 1, sur 231, sd 1360 ft.

JIM WELLS COUNTY—Carsol O&G Co.'s McGill 3, D. Baldwin sur, completing, total depth 2804 ft.

KARNES COUNTY—V. F. Neuhaus' Russell 1, Martinez sur, lcn.

KENDALL COUNTY—Borger et al's Willie Haag 1, W. Avery sur, dr 1200 ft. Dixon Oil Co.'s Behr 1, Jessie Wilson sur, dr 2670 ft. Dibble's Ellebracht 1, sur No. 77, sd about 50 ft. Hardy Sitton's Garvin 1, Richardson sur, 1125 ft, fsh.

KERR COUNTY—Evans and Gant's Seiker and Mears 1, sec 1605, CCSD & RG Nr. sur, sd 4031 ft; Jeff Love 1, J. Martinez sur, sd 4060 ft. Evans and Sprinkle's Jeff Love 2, sw cor sec 1592, run 15½-in cas to 420 ft. Chester A. Martin's J. E. Young 1, A. E. Bruce sur, prep to re-drilling 1175 ft.

KIMBLE COUNTY—C. L. Bryant et al's Lambert 1, F. Lotts sur, sd 850 ft.

KLEBERG COUNTY—Barbee and Hunter's Finnegan 1, El Pasadizo sur, prep to abn 3031 ft.

LA SALLE COUNTY — Fred W. Volz's Coleman 1, sur 514, sd 40 ft.

LIVE OAK COUNTY—Catlett & O'Neill's Hatcher 1, James McGlion sur, dr 3041 ft. Houston Oil Co.'s Cartwright 23, Sandman sur, installing pump, total depth 3565 ft; Cartwright 14, coring 3450 ft. Coquat et al's Hewitt 1, Thomas Adams sur, dr 410 ft.

McMULLEN COUNTY — Brodie, Shearer, Emerich's Shiner 1, sd 2000 ft.

MAVERICK COUNTY—Texas Gas Utilities Co.'s Chittim 8, Chittim sur, dr 3945 ft.

MEDINA COUNTY — Frank A. Brown's Fogn 1, Torrey sur No. 111, dk. J. M. Hickey's Jungman 1, sd 565 ft. F. E. Tegler's Nixon 6-A, completing 957 ft. Sun Flower Oil Co.'s Mofield, sur 532, reported plugging back from 2040 ft in Edwards lime. Yancey Dev. Co.'s Faesler 1, sur 801, dr below 1850 ft.

NUECES COUNTY—Gulf Coast Oil Co.'s Harrell 1, sec 311, blk 32, testing sand 4414 ft. Houston Oil Co.'s Harrell 2, John E. Dunn sur, mudded in 2740 ft, prep to complete; Morgan 2, plugged back to 4097 ft, prep to complete. Southern Crude Oil Pur. Co.'s Chas. Stratton 1, P. Anchow sur, dr 2516 ft.

REAL COUNTY—Gand and Kilgore and Eastland Oil Co.'s Dan Auld 1, sec 23, sd 4007 ft. Evans and Sprinkle's Haby 1, SB & M sur, sec 175, dr 2328 ft in shale.

REFUGIO COUNTY — Blanco Creek Oil Corp.'s Dammann 1, blk 16, Bonnie View ranch, sd 4200 ft. Humble O&R Co.'s O'Conner 1, John Keatins sur, dk.

SAN PATRICIO COUNTY—Saxet Oil Co.'s White Pt. Dev. Co. 4, White Pt. Field, abn 3598 ft. United Prod. Co.'s Mayfield 1, White Pt. field, coring 2595 ft. Welder Oil Corp.'s Welder 1, dk. Jacob, Buzzini & Pickett's Baldwin 1, O'Neill sur, sd 4020 ft; Baldwin 2, ur.

STARR COUNTY—B. B. Tipps' Doyno 1, Porcion 81, sd 332 ft. Los Olmos Oil Co.'s Kelsey-Bass 5, blk 7, Porcion 75-76-77, completed 25 bbls at 431 ft.

VICTORIA COUNTY—Houston Oil Co.'s Konrad 1, T&NO sur, Beck Salt Dome, dr 4263 ft. Westheimer et al's Simpson-Fell Oil Co.'s Levi 1, sur No. 4, dr 5665 ft. T. B. Slick Estate's McFadden 1, J. Barvian sur, completing fourth time after plugging back to 3509 ft. The Texas Co.'s McFadden 3, sand 2048 ft, test 800 lbs in 3 min.

WEBB COUNTY — Eugene Garner's Billings 1, sur 71, dk, to ur. Cole Pet. Co.'s Benavides 2, sur 1601, dr 2880 ft. Geo. S. Marshall's Benavides 1, sur 683, lcn. Southern Gas Utilities & Sterling & Co.'s de la Garza 1, blk 13, sur 336, completed 14,000,000 cubic ft gas, 645 lbs pressure at 2212 ft. S. R. C. & Zock's Cuellar 1, Cuellar Grant, dry and abn 2450 ft.

WILLIAMSON COUNTY—Hays and Gee's Johnson 1, B. C. Low sur, dr 815 ft.

WILSON COUNTY—August Blume's Nickelson 1, C. Diaz sur, testing 925 ft.

ZAPATA COUNTY — A. R. McLennan's Cuellar 3, sur 277, completed 50 bbls, total depth 1582 ft. Pray and Chamberlain's (Whicker) Garza 4, blk 1, Zorro ranch, dk.

Moore and Moore's Adelita Flores 1, blk 99, dk. O. W. Killam's Ranchita 1, Borrego Grant, lcn to be made. W. T. Henry's Gopher Trust Estate 1, blk 10, sur 4, sd 1335 ft. National Oil Co.'s Luther et al, Da Pron sub, sd 590 ft. Penny Prod. Co.'s Cuellar 1, Pappas sub, sd 2055 ft. T. H. Ward's Uribe 1, sur of Share 7, Borrego Grant, rigged up and sd.

EAST TEXAS

Completion

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
United Prod. Corp., Werner 10, B. C. Jordan Sur	¶113¼	4720

HARRISON COUNTY—O. H. Parkening's T. J. Taylor 1, Walter H. Payne sur, sd for fuel in shale and shells 2530 ft. Banner et al's Lowery 1, W. O. Stanfield sur, sd 3650 ft, Ryan Cons. Pet. Corp.'s H. H. Key 1, E. Carroll sur, dr lime and sand 4880 ft. J. M. Gholson's Bivins 1, T. D. Peterson sur, dr chalk 2480 ft. Olford et al's Bolding 1, W. O. Stanfield sur, dr 2600 ft. Thomas & Kinsey's J. R. Watson 1, Thos. Iden sur, rig (5000 ft test planned). Lloyd Oil Corp.'s Timmons 1, Jno. Findley sur, so 10-in 140 ft. Ryan Cons. Pet. Corp.'s J. M. Furrh 1, T. J. Copelain sur, dk.

MARION COUNTY—Rondeau & Hindman's Lindsey 1, Alex Albright sur, sd 400 ft. J. W. Hamilton's Wood 1, Alex Albright sur, sd 2380 ft. Claunch et al's Laun 1, Henry Fulgram sur, sd 300 ft. Sheldon et al's Brown 1, E. B. Fowler sur, sd 3750 ft.

NACOGDOCHES COUNTY — Benedum Trees' Conkrite 1, 1 mi s Chireno, coring 5320 ft. Trout & Dixon's Blount 1, Williams sur, dk. Bunte, Martin & Scroggins' Botaman 1, Boggs community, sd in sh at 1600 ft. J. F. Burke et al's Pattison 1, td 4260 ft. sd. Churchill-Armstrong's Hart 1, 7 mi w Nacogdoches, dk. Foreman Ellis' Norris 1, 14 mi e Nacogdoches, ru. R. E. Burt et al's Reese 1, ½ mi s Nacogdoches, sd in sh at 4003 ft. W. W. Wheeler's J. B. Parmalee 1, 8 mi nw Nacogdoches, sd 3840 ft. Paul Vitek's M. B. Hayter 1, 7 mi w Nacogdoches, sd at 3027 ft.

PANOLA COUNTY — Dillon & Bradham's Baldwin 1, Hampton West sur, sd 1555 ft. United Prod. Corp.'s Steele 17, B. C. Jordan sur, lcn (Trinity test). Werner 10, B. C. Jordan sur, 6⅝-in cas 4622 ft, gauged 11,880,000 cu ft gas, spray sw, r p 1900 pounds, td 4720

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"Most Complete Line of Tongs in the World"

THANKS to you men on the derrick floor, the Petol Tubing Tong has gone over big! When demonstrated in the field to thousands of you, it won your okeh for the simple way it stabs on the pipe, grips instantly, stays put, rachets perfectly, and can be removed with a simple twist of the wrist. When engineers tested it in the laboratory, it won their okeh for superior strength, safety and low maintenance cost. Now Supply Companies everywhere stock them in all sizes.

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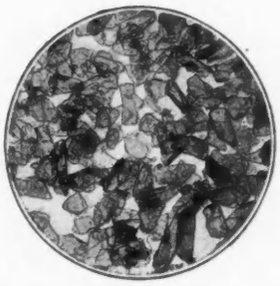
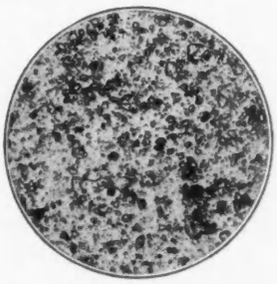


This reproduction of a photo-micrograph shows how flakes of internal reinforcement used by Barrett tend to interlock. They laminate with waterproofing agent and give Barrett Pipe Enamels unusual tensile strength and toughness.



And this reproduction of a photo-micrograph shows how ordinary filler, the granular or dust-type, looks. It is composed of smoothly surfaced particles in loose contact.

For pipe of large diameter The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

More bitumen per finished ton . . . .

Barrett Specification

PIPE LINE ENAMELS

The flake-type mineral reinforcement used in Barrett Specification Pipe Line Enamels permits the use of a larger percentage of coal-tar pitch in the production of each finished ton. Since coal-tar pitch is the nearest perfect waterproofing agent known, the greater quantity of it in Barrett Enamels means superior waterproofing efficiency. In addition, the reinforcement used is non-porous, non-absorbent, chemically inert and dielectric. Send for complete information on Barrett Specification Protection.

The *Barrett* Company

40 Rector Street **New York, N. Y.**

ft. (Upper Trinity). Southwestern O. & G. Co.'s Vinson 1, C. T. Anderson sur, sd 3873 ft. Daisy O. & G. Co.'s Rucks Hrs. 1, Jno. Palmer sur, dr 4200 ft. Everett Prod. Co.'s McDaniel 4, Alamson Barr sur, dr 3610 ft. Moses & Wallace's C. L. Daniels 1, Isabel Hanks sur, sp, dr 40 ft. Hoffer et al's Cameron 1, W. A. LaGrone sur, dk. Davidson et al's Latham 1, Wm. Rick Sur, bldg dk for deep test, td 550 ft. Ark. La. P. L. Co.'s Werner 14, B. C. Jordan sur, cemtd 7-in cas 4682 ft. (Trinity test). Nelson et al's Williams 1, Jas. Hanks sur, 12½-in cas 400 ft, dr 740 ft. Mid-Kansas O. & G. Co.'s Sholar 1, Susan Snider sur, dr 1150 ft. Stamps et al's Chadwick 1, Wm. Scantlemerry sur, materials.

SHELBY COUNTY—Sloane Prosp. Co.'s F. B. Sanford 1, M. M. Vann sur, sd in shale 3417 ft. Chapparal Oil Co.'s Holt 2, Matthew Moore sur, claim sand core, arr set 6⅝-in cas, td 3127 ft. E. L. Chapman's Pickering Lbr. Co. 1, C. F. Henry sur, blew out est 25 mil ft gas and spray fresh water, killed and cemted 7-in cas, td 3864 ft. Maulding et al's Frost Lbr. Ind. 1, A. B. Fountain sur, dr shale 2240 ft. H. H. Gracey's J. A. Morrison 1, Wm. English sur, sd, dr water well 2600 ft. I. M. Bradley et al's J. J. Asberry 1, G. W. Mitchell sur, sd in sandy lime 3280 ft. T. A. Martin's J. A. Bush 1, Alfred Lindsey sur, dk and mov in rig. Joiner et al's Foster & Billingsley 1, J. Bowlin sur, ta in shale 1540 ft. Schultz et al's Hughes 1, J. Clay sur, sd in lime 3120 ft. C. H. Tautenhahn's J. C. Bogard 1, Thos. Baker sur, sp partly rigged up sd 20 ft. Glidden & Stephenson's Pickering Lbr. Co. 1, Jonas Harrison sur, dr chalk 2850 ft. Ridgeway et al's Polley 1, Domingo Gonzales sur, dk. Geo. L. Pace's Powers 1, Jno. Timms sur, dk. T. W. Tennent's Henry 1, Jno. Spradley sur, sp, sd 90 ft for water. K. H. Francis' Jno. Mims 1, Mary Smith sur, sp, cemtd 13⅜-in cas 40 ft. Smith et al's Carroll 1, J. A. Parker sur, sp.

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HOUSTON, TEXAS

LOUISIANA GULF COAST

ACADIA PARISH—Yount-Lee Oil Co.'s H. Latrielle 10, Evangeline, set 10-inch cas 894, dr 2965 ft.

CALCASIEU PARISH—Vacuum Oil Co.'s Wait 1, Iowa, td 6970 ft, fsh for scr, slight show O.S. Union Sulphur Co.'s Fee 767, Sulphur, td 3928 ft, cmt 9⅝ at same.

CAMERON PARISH—J. G. Sutton et al's Erwine 1, East Hackberry, 13-12s-10w, ru. Vacuum Oil Co.'s Cameron Meadows 2, Cameron Meadows, fsg for 7-inch cas at 4300 ft. R. E. Seiss Trustee's Vincent 2, Hackberry, sd. Magnolia Pet Co.'s Sweet Lake Land Co. 2, td 5716 ft, sd to dr water well.

IBERVILLE PARISH—Standard Oil Co.'s Schwing 3, temp abn at 2983 ft; Schwing 6, rock cavity at 3520 ft, lost returns, mixing mud; Wilbert 7, temp sd in sand at 1341 ft.

LAFOURCHE PARISH—States Prod. Co.'s Dibert-Starck & Brown A-1, 71-15s-15e, Chacahoula dome, lcn.

PLAQUEMINE PARISH — Humble O&R Co.'s Lake Washington 2, Lake Grand Escaille dist, td 160 ft, set 122 ft of 20-inch cas.

ST. JAMES PARISH—Convent Oil Co.'s Jacobs 1, temp sd in gbo at 2395 ft.

ST. LANDRY PARISH—The Texas Co.'s Botney Bay 10, Port Barre dist, O.S. 3980 ft, prep to dr dpr.

ST. MARTIN PARISH—Federal Petroleum Co.'s Daugareaux 1, sd in sh at 5000 ft.

TANGIPAHOA PARISH—Joan Dev. Co.'s Lake Superior Pil. Co. 1, temp sd at 3005 ft.

TERREBONNE PARISH—The Texas Co.'s State Bay Junop 2, 28-21s-14e, lcn; L. L. E. Bay St. Elaine 1, td 5675 ft, prep to run 4¾-inch cas; L. L. E. Four Isle 5, dr br li & gyp 615 ft; State Lake Barre 6, sticky sh, sdtr 2490 ft; td 3992 ft; Lake Barre 13, Lake Barre, dr in sh & li at 4510 ft.

VERMILLION PARISH — Pure Oil Co.'s Alliance Trust Co. 1, Gueydan, dr sn 5743 ft.

WEST FELICIANO PARISH—Como Oil & Dev. Co.'s M. B. Woods 2, sh & li at 2043 ft, w.o. 8¼-inch cas.

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mummer et al, Sornick 1, nw c se, hfw 2070-2170 ft, sd 3693 ft.

GRANT COUNTY—T 26n, R 4w, Sec. 22, Cowden et al, Collmer 2, ne c se ne sw, sd 5640 ft, tools lost.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, show gas 5298-5303 ft. sd 5502 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5850 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, td 5120 ft, to abn.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw, sd 3970 ft.

KAY COUNTY—T 28n, R 3e, Sec. 24, Summitt Drlg. Co., Hays 1, nw ne nw, td 3675 ft, pb 3222 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T. 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, hfw 3505-50 ft, sd 3552 ft. T 20n, R 5e, Sec. 6, W. A. Rookstood et al, Berry T, nw ne sw, sd 1951 ft, show gas.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic et al, Beebe 1, sw ne sw, lcn abn.

OKFUSKEE COUNTY—T 12n, R 10e, Sec. 3, Shepperd et al, Shepperd 1, se nw sw, sd 3690 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw nw se, show gas 5654-64 ft, sd 5733 ft.

LATIMER COUNTY—T 6n, R 19e, Sec 16, P. English et al, Weaver 1, c nw se, sd 1542 ft.

OKLAHOMA COUNTY—T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Ute Oil Co., et al, Williams 1, c sw,

sd 5150 ft. T 11n, R 26w, Sec. 4, J. J. Rook & Palmer, Davis 1, c nw ne (owd) sd 2960 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey et al, Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 8n R 19w, Sec 29, Snodgrass et al, Blocker 1, nw c, sd 1875 ft. T 8n, R 18w, Sec. 21, Burns & Price, Dock 1, sw c, sd 1050 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good & Dowell, Cliffel 1, nw c, sand 1462-1501 ft, sd 1745 ft. T 7n, R 21w, Sec. 23, H. A. French, Murphy 1, sw nw se, sd 1654 ft.

GARVIN COUNTY—T 2n, R 2w, Sec. 24, Malernee, Phillips 1, ne c sw, sd 4800 ft.

COAL COUNTY—T 2n, R 8e, Sec. 10, Whitney et al, Miller 1, se c ne (owd), sd 760 ft. T 1n, R 8e, Sec. 35, W. E. McCraw O&G Co., Stiring 1, ne c se, sd 1730 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nec, show gas 360-72 ft, sd 500 ft.

BRYAN COUNTY—T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne se sw, sd 660 ft.

KANSAS

MORTON COUNTY—Hydraulic Oil Co.'s State Land 1, nw se, 22-34-43w, sd 3460 ft.

SUMNER COUNTY—Trees Oil Co. & Shell's Springate 1, ne se sw, 6-34-2e, sp.

COWLEY COUNTY—Fisher et al's Hunt 1, c sw se se 11-34-3e, ru and sd.

SUMNER COUNTY—Spencer et al's Porter 1, ne sw se ne, 11-34-3e, sd 2530 ft. Otstot et al's Warlow 2, c se nw se, 22-33-3w, td 4070 ft, sd to repair rig.

FORD COUNTY—Carter et al's Community-Everett 18, c ne, 22-29-21w (6000 ft test) reaming, td 5341 ft.

SEDGWICK COUNTY—Buck et al's Mcnaman 1, c ne nw nw 2-20-1e, td 3080 ft, ur 6-in. Magnolia's McLaughlin 1, nw c, 31-28-1w, dr 725 ft.

FORD COUNTY—Swain et al's Henthorn 1, c nw, 21-25-24w, 5-in 4645 ft, sd 5105 ft.

STAFFORD COUNTY—Rosenthal, Stanolind & Amerada's Gray 1, c ne, 11-34-13w, sd 2900 ft.

HARVEY COUNTY — J. P. Flanagan's Sheridan 1, c sw, 32-22-1e, dr 990 ft.

MARION COUNTY—Maidwell,'s La Master 1, nw c, 31-22-4e, td 650 ft sd.

COFFEY COUNTY—Hegberg et al's Kroft 1, se sw se, 30-22-14e, 10-in 818 ft, sd 1565 ft.

BARTON COUNTY—McCool et al's Isern 1, c sw se ne, 12-20-11w, td 1600 ft sd.

RUSH COUNTY — Dewey & Mitchell's Greenwalt 1, c sw, 17-19-16w, 6-in 3630 ft, dr 3705 ft.

BARTON COUNTY—Skelton Oil's Ott 1, c se se, 16-19-14w, td 2420 ft, fsh.

RICE COUNTY — Deitrick & Langston's Purcell 1, nw c, 33-19-9w, 8-in 2270 ft, s o & w 3002-08 ft, dr 3140 ft.

BARTON COUNTY—Syndicate Oil's Boertz 1, c nw se ne, 13-18-12w, td 2450 ft, sd.

RICE COUNTY—Allison & Fitzwilliams' Blake 1, ne nw, 9-18-10w, dr 2740 ft.

CHASE COUNTY—Borden et al's Atkinson 1, nw se, 18-18-7e, machine.

MORRIS COUNTY—Urschell et al's Bersuch 1, c nw se nw, 10-17-7e, ru and sd.

ELLSWORTH COUNTY—Keyes Bros. et al's Gregory 1, sw c, 23-16-9w, dr 725 ft.

MORRIS COUNTY—Hankenson et al's Cessnum 1, sw e, 24-17-9e, 2475-78 ft, hfw, ur 6-in.

FRANKLIN COUNTY—Fields et al's Usher 1, se c, 35-16-17e, sd 400 ft.

ELLSWORTH COUNTY — Milton et al's Kaster 1, se ne, 6-14-9w, td 3256 ft, ur 6-in.

OSAGE COUNTY—Riggs-Smith's Wood 1, c se nw, 31-14-15e, 10-in 1050 ft, sd.

RUSSELL COUNTY — Austin Drlg. Co.'s Rockefeller 1, se c, 6-13-12w, 3320-25 ft, hfw, td 3374 ft, sd.

SALINE COUNTY—Twin Mounds Oil Co.'s Weis 1, c w½ ne nw, 30-13-4w (owd) td 2710 ft, dr by 8-in.

DICKINSON COUNTY—Severs et al's Livingood 1, ne sw, 13-13-2e, dr 3970 ft.

RUSSELL COUNTY—Gilbreath et al's Brattan 1, c ne, 33-11-13w, pb 3189 ft, sd.

LINCOLN COUNTY—Buck et al's Schlutz 1, c se ne sw, 19-11-6w, rog.

GRAHAM COUNTY—Schleimeyer et al's Clark 1, sw ne ne, 11-9-25w, 4639-4646 ft, hfw, td 4648 ft, sd.

CLAY COUNTY—Nebraska Oil's Tivier 1, sw c, 19-8-9e, sd 2700 ft.

SHERIDAN COUNTY—Flo et al's Shoemaker 1, se sw sw, 27-27-26w, 10-in 1178 ft, sd 2445 ft.

WASHINGTON COUNTY—Sincox's Penwell 1, nw se nw, 16-3-3e, sd 1720 ft.

RAWLINS COUNTY—Danciger et al's Unknown 1, sw c, 3-2-35w, 6-in 2995 ft, sd 3501 ft.

MONTANA

CASCADE—Endover Oil Co.'s Floweree 1, se 29-21-2w, dr in Ellis-Madison at 1965 ft.

GALLATIN—Gallatin Valley Oil Co., nw 1-1n-4e, dr.

GLACIER—Fulton Pet. Corp.'s Blackfeet 1, ne 28-36n-12w, cemt 2460 ft. Jeffries-Hoerr's Dawson 1, ne 7-31-12w, sd 2980 ft.

LIBERTY—Northland O. & G. Co.'s Yurman 1, 32-33n-5e, sd 3700 ft. Peoples O. & G. Co.'s First Nat'l Bank 1, nw 17-36-6e, dr 1400 ft. California Co. for Utopia Oil Co., se 11-33-6e, pull pipe 3214 ft.

ROSEBUD—Prairie O. & G. Co., 1-XX, 26-10-39e, start new rotary test. Prairie 1, on Contract 4, 28-11-39, pull 12½-in, sd 1360 ft.

SWEETGRASS—Shoshone Cons., nw 23-2n-15e, run 6-in, td 5793 ft.

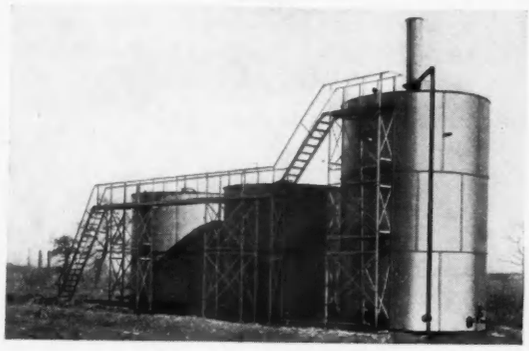
TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, sd 150 ft. California Co.'s Sullivan 1, nw 34-27-7w, dr 620 ft. Earl Oil Corp.'s Gad 1, se 22-22-8w, dr 2700 ft. Trans-American Oil Co.'s State 1, sw 21-24-8w, fsh 360 ft.

TOOLE—Liquid Gold Oil Co.'s Robert 1, ne 25-36-12, wait for 5-in at 2500 ft. Oregon Oil Synd., se 20-36-2e, wait for equipment.

YELLOWSTONE—Peter Antonioli, 21-2n-25e, wait cas 1600 ft.

(*Continued on page 72*)

BUTLER



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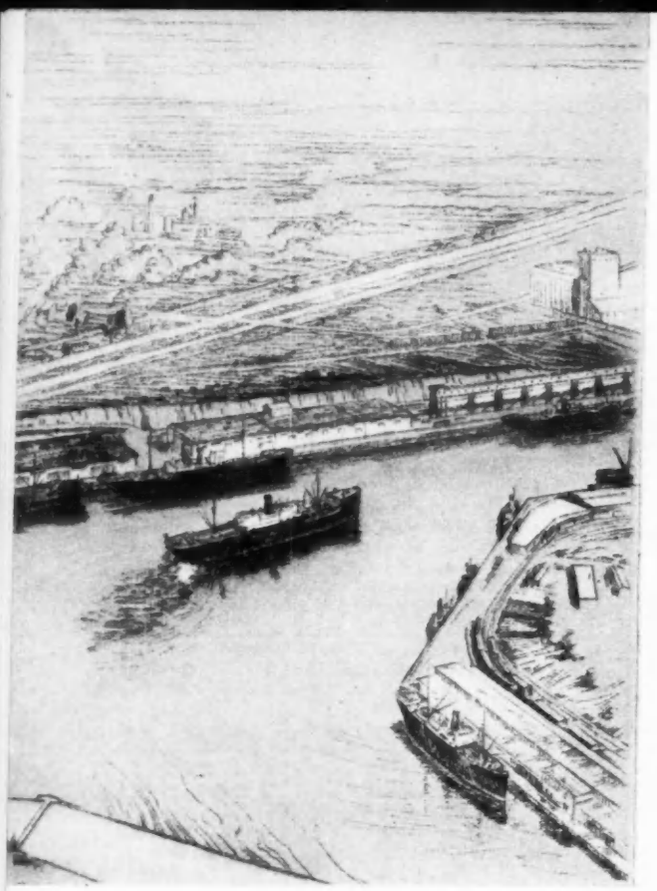

SHIPS » » »

. . . . coastwise . . . . intercoastal . . . . trans-Atlantic . . . . trans-Pacific, in constant parade, salute the ever-growing Port of Houston, the focal point of southwestern shipping. Shipping lanes through Houston's ship channel weave a pattern of commerce to the far corners of the earth.

Permanent growth, reflecting the faith of the pioneers of Houston shipping and industry, vividly illustrates the progressiveness that has marked the development of the Houston ship channel and the City of Houston. Confidence, vision, purpose, and perseverance of those who were responsible for the channel have made it a port of world-wide prominence.

In equal measure the growth of the shippers' financial service requirements has been tremendous, and we have measured our growth with the development of Houston. Our contacts with foreign and domestic banks cover practically every country on the globe, through which we offer you the best possible exchange service and credit information.

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LOOKING OVER OUR ▼ SHOULDERS ▼

THE one department of oil field work as yet little touched by the blade of the economy ax is that of accident prevention. Many programs have been abandoned and most other divisions have been given lower appropriations, but safety remains with its full support of the treasury.

Those responsible for the safety program say the reason for this is that the executives of oil companies have learned that money spent on accident prevention pays good dividends. They admit that the executive has the touch of human sympathy like other individuals and is swayed to some extent by his desire to give workers every help in avoiding injury.

Beyond that, however, is the fact that the dollars put into accident prevention and health teaching come back into the petroleum strong box with excellent earnings attached. The proper amount put into safety brings an adequate reduction in compensation rates, loss of time and payment of claims.

* * *

THIS hope that is being put into the water talk for the East Texas area should be tempered by other oil fields and their water troubles. It seems that a dangerous time for overproduction brings recurring promise of water encrouchment.

Homer had its day of publicity on a rising water level. So did Mexia and especially Powell. Powell was a market threat comparable in its day to the East Texas field of this day. So the water lines were drawn and the rate of encroachment calculated to a nicety.

But Powell, as well as Homer, Mexia, Wortham and many others, came through with immense production totals despite water.

Water has come into most of the oil fields of the world but along with it has come oil and it is short sighted to base hope of a higher price on water encroachment.

* * *

MUCH regret is spilled over the fact that oil producers are so stupid that nothing short of reduction in crude oil prices will halt drilling.

In that oil producers are a match for shoe manufacturers, wool producers, fruit growers and the builders of miniature golf courses.

Business learns from a blow on the head. The only blow known to business seems to be that of a price cut.

This has been established by such long precedent and by so many instances that the spilling of regret should not be over the fact that oil field development can be halted only by a price cut; the regret should overflow the cup because the price cut is postponed until after so many other unavailing efforts have been made.

* * *

ONE of the serious prospects facing the business executives of these United States is that of having to go back to work.

* * *

WOULDN'T it be fine . . . to hear the station agent say that all lowers were taken . . . to have to wait "until some of the guests check out" before getting a hotel room . . . to see the help wanted columns grow longer . . . to know that some oil field equipment plants were behind on orders . . . to see the Standing Room Only sign most anywhere.

* * *

ANY country which can over-subscribe by seven times a treasury deficit of $800,000,000 still has sufficient financial power to weather the gale. There is even some encouragement in the fact that this dormant capital raised its head in attention when the treasury financing was announced.

* * *

UP in Kay County, Oklahoma, a bushel of wheat is bringing more money than a barrel of oil.

Dallas Petroleum Geologists, Dallas, Texas, is making available a report on "The Age of the Producing Sands on the East Rim of the East Texas Basin," including papers and discussions of the aforementioned subject as presented at a meeting of the Dallas Petroleum Geologists at Dallas, March 7, 1931. The data includes maps. Contributors to this report include: Dr. R. T. Hill, W. C. Spooner, Dr. Gayle Scott, P. W. McFarland, F. B. Plummer, Dr. F. H. Lahee, E. M. Rice, Merle Istrelsky, E. C. Sargent and R. B. Whitehead.

The report covers 28 pages, including 11 maps, and is priced at 75 cents. Inquiries should be directed to the above address.

G. R. McConnell, one time aviator at Call Field, having been the 17th man to arrive at that army post situated at Wichita Falls, Texas. He saw service "over Lake Wichita" like so many of us who were marooned there "for the duration." Now, after these many years, he took his first post war flight in a small cabin plane, which he says does not give a fellow a kick like the old Jennies which we had to hold ofttimes to give the old engine time enough to get started.

He is production superintendent for the Delaware Consolidated Oil Company at Delaware, Oklahoma, putting into practice many economies in producing oil from that pool by repressuring with gas and air mixed in the sand. Pumping the wells from the regular powers with converted steam engines using compressed air instead of the regular gas engines.

G. R. McConnell, Production Superintendent, Delaware Consolidated Oil Company, Delaware, Oklahoma.

(*Continued from page 69*)

WYOMING

CARBON—Midwest Ref. Co.'s U. P. 27, 27-11-81, dr 2955 ft, caving shale. P & R, 19-20-83, dr 1090 ft. Prairie O. & G. Co.'s Bunker Hill 1, 29-27-87, cellar.

CONVERSE—Phillips Pet. Corp., 27-32-69, 1M gas at 360 ft., so and sd. John Ackard, 24-33-72, gas show 1490 ft. Gust Anderson, se 7-35-75, lcn.

FREMONT—P & R 1, 33-34-92, wait tester 5670 ft. Wiebolt et al, 35-33-99, sd 1850 ft. Ward O. & G. Co., 28-34-90, cemt 230 ft.

HOT SPRINGS—Grebo Roy., Inc., 3-47-100, sd 836 ft.

LARAMIE—Prairie O. & G. Co.'s Warren 1, 22-13-62, dr shale 462 ft.

NATRONA—Midwest's 11, nw 32-34n-77, sd 5340 ft. Cuyler Oil Co., 23-36n-85w, dr 2286 ft. Midwest's Midway 1, ne 23-35n-79w, dr out cemt 6000 ft.

PARK—Resolute Oil Co., 17-57-101, sd 8691 ft.

SHERIDAN—R. & D. Oil Co., se 21-57-87, sd cemt at 600 ft.

SUBLETTE—Cretaceous Oil Co., sw 7-28-113, dr water well deeper from 150 ft where oil shows.

SWEETWATER — Mountain Fuel Supply's Tucker 1, 8-13-99, c 3480 ft, td 3630 ft.

UINTA—Transwestern Petroleum, Ltd., 6-14-118, resum fsh tools 3100 ft.

WASHAKIE—Ohio Oil Co., lot 14, 19-45-92, dr 6293 ft.

WESTON—LeFaivre Oil Synd., se 29-45n-68w, resum dr at 1200 ft. Gose Oil Synd., 28-47-65, resum 4918 ft. Osage Wyo. Oil Co.'s Witzell 1, se nw, 30-46-64, co 1600 ft.

NEW MEXICO

CHAVES—Warman Oil Trust's Siebert 1, ne 27-13-24, plug back and sd 2686 ft. Neal et al's Russell 1, nw 21-14-25e, sd 2320 ft.

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, ready to dr out cemt 3200 ft. Landowner Oil Co.'s State 1, ne 16-1s-27e, co, td 4508 ft.

GUADALUPE—N. M. Prod. & Ref. Co.'s McMullen 1, 24-5n-16e, dr 1142 ft.

HARDING—Kummbaca O. & G. Co.'s Kerlin 1, se 34-21s-30e, 3M gas at 970 ft.

LUNA—Angelus Oil Mining Ass'n 1, 20-21s-10w, dr 6106 ft.

McKINLEY—J. W. Halsell's 1, 17-18-9w, sd 3255 ft. Williams et al's A. T. S. F. 1, se 19-18-n-8, sd 1900 ft. United Kern Pet., Inc., sw 1-18n-11w, lcn. Dysart et al's Dysart 2, ne 14-14-10w, sd temp at 1315 ft. Johnswood Oil Co.'s Hannett 1, sw 12-15n-10w, dr 221 ft.

MORA—Fulton Pet. Co.'s Santa Fe Dioxice Co.'s Wagonmound 1, ne 14-19-21, sd 1316 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, sd 1005 ft. Pasotero Oil Corp.'s Evans 1, sw 22-24s-12e, dr at 1200 ft.

RIO ARRIBA—Berrenger et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Gov't 1, se 14-30n-7w, sd 250 ft. Governador Oil Co.'s 1, se 12-29n-7w, dr 1255 ft.

ROOSEVELT—Peterson et al's Good 1, ne 32-5s-30e, ready to sp.

SAN JUAN—Kutz Canon O. & G. Co.'s Day 1, se 20-28n-10w, dr 3210 ft. Rio Grande Dev. Co.'s 2, 9-29-11, sd 1530 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, fsh 4461 ft, td 4730 ft. San Juan Leaseholds' Bowman 3, ne 30-30-15, sd 2635 ft. Reserve Oil Co.'s Reserve 3, se 36-22-14, ur, td 810 ft. R. C. Oswell et al, nw 34-30n-11w, td 450 ft, gas. Williams et al's Stallings 1, sw 17-25n-15w, sd 150 ft. Ortega et al's Westwater 2, ne 24-31n-16w, co.

SANTA FE—Jones, Owsley et al, 5-10n-9e, dr 135 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, ready to res 1643 ft.

VALENCIA—Harlan et al's Harlan 4, nw 5-6n-2e, dr 3715 ft. Acme Dev. Co.'s Santa Fe 1, nw 27-7n-4w, sd 5000 ft.

COLORADO

ADAMS—N. M. Slatt's 1, se 27-26-64w, carry 6⅝-in cas 3694 ft.

ARAPAHOE—McDeb Cr. Co.'s Fitzsimons 1, ne 7-4s-68w, run 4¾-in, td 5835 ft.

BOULDER—C. T. Ahlstrand's Woodley 1, nw 8-3n-70, sp 12 ft.

EL PASO—Utemore Synd.'s Cannon 1, ne 10-16s-66w, sd 1125 ft.

GRAND—Oil Mineral Land, Inc.'s McElroy 1, sw 14-2n-81w, sd 545 ft.

HUERFANO—Parker Club, Inc.'s Fee 1, se 4-28s-68w, may start new hole.

JEFFERSON—Ruby Hill O. & G. Co.'s Braden 1, se 24-4s-59w, sd, td 3920 ft.

LA PLATA—McGarr Pet. Co.'s Pinon Mesa 1, ne 34-33n-12, lcn. Klem Pet. Corp.'s Olbert 1, se 9-26n-12w, sd 3125 ft. Murchson Oil Co.'s Doescher 1, nw 29-33n-12, dr 1515 ft.

LINCOLN—Eastern Colo. Oil Corp.'s State 1, 36-14n-57w, dr 3286 ft.

MONTROSE—Uncompahgre O. & G. Co.'s Title & Trust 2, 27-50n-10w, td 1021 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-57w, co 4090 ft, hole trouble. Independent O. & R. Co.'s Schmidt 1, ne 19-6n-60w, prep to bld rig. Johan et al's Kent 1, sw 2-2n-57w, td 750 ft.

PUEBLO—Anchor Oil Co.'s Easley 1, sw 35-22s-57w, dr 705 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-8s-76w, co 2065 ft. So. Park O. & G. Co.'s Easche 1, ne 5-9s-76w, prep to run 8¼-in at 2370 ft.

RIO BLANCO—California Co.'s Raven 1, se 20-2n-102w, dr 1107 ft. Magnolia Pet. Co.'s Maddock 1, se 9-2s-96w, fsh 600 ft.

WELD—Reiter-Foster and Platte Valley Pet. Corp.'s Johnson 1, nw 24-6n-61w, prep to cemt 6226 ft. Aztec Corp.'s Kirchoff 1, se 1-6n-61w, cellar. Retter Oil Co.'s Smith 1, c 14-1n-66w, prep to res at 1171 ft. Conoco's Tatum 1, sw 24-6n-61w, lcn.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Wilson & Chapman, Atkins 1, 3-18-13	490	3610

CHICOT COUNTY—W. R. Smith's Lytle 1, 31-18-3, ta 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Underwood 1, 4-20-8e, sd repr rig 1252 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, sd wo after testing sw, td 3515 ft.

CLEVELAND COUNTY — Crumm & Stilwell's Bell 1, 10-10s-12w, rig.

COLUMBIA COUNTY—Kendall Oil Co.'s Fullenwider & Kitchen 1, ne ne 13-17-22, cemt 8½-in cas 800 ft.

DALLAS COUNTY—Jno. James, Tr.'s Fordyce Lbr. Co., 1, 11-9s-15w, sd for funds 2520 ft. E. C. Brewer, Tr.'s Hillman 1, 20-10-13, sd wo 2869 ft in white sand.

HOT SPRINGS—Starr Oil Co.'s Cunningham 1, 11-5-16, sd 1300 ft.

JOHNSON COUNTY—Blackwell O. & G. Co.'s Wyver 1, 21-8-23, ta 5600 ft.

LA FAYETTE COUNTY—Crawford Drlg. Co.'s Vaughan 1, 25-19-25, dk. McIver et al's Hattle 1, 1-20-26, sd wo 2520 ft.

LAWRENCE COUNTY—Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LINCOLN COUNTY — L. B. Cook, Tr.'s McGehee Pltg. Co. 1, 5-8s-7w, arr set 10-in cas 1294 ft, td 2110 ft.

LITTLE RIVER COUNTY—Fay Roberts Oil Co.'s Russell 1, 25-12-29, lcn.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, sd 3610 ft.

MILLER COUNTY—J. D. McRae's Smith 1, 28-15-26, dk. W. E. Noel et al's Dickson 1, 11-20-27, len.

OUACHITA COUNTY—Copenhaver's et al Elliott 1, 11-15-17, bailed dry at 2210 ft, sd.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, ta 2920 ft. E. R. Henderson's Lee 1, 31-8s-24w, 17-3n-29w, abn old hole at 1000 ft, skidded over, sp, new hole cemtd 8¼ cas 350 ft, coring 372 ft.

SCOTT COUNTY—Heavener O. & G. Co.'s Reser 1, 36-4-26, sd 1536 ft. Waldron O. & G. Co.'s J. G. White 1, 17-3n-29w, sd, wo cas 1860 ft, (sec. hole).

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, tested sw, sd 3515 ft. Ozark Nat. Gas Co.'s Giard 1, 34-8-30w, lcn.

SEVIER COUNTY—Tri-State O. & G. Co.'s Bank of DeQueen 1, 34-8s-32w, rigged up and sd.

UNION COUNTY—Southern Prod. Co.'s Wingfield 1, 16-19-15, sd 2608 ft. Lion O. R. Co. et al's Guy P. Hayes A-9, 4-16-15, cored red gummy shale 4451-57 feet, arr make another core. Wilson & Chapman's Handley 1, 3-18-13, ta with 600 ft fluid 30 per cent sw in hole, td 3570 ft. Atkins 1, 3-18-13, 6⅝-in cas 3600 feet, oil sand 3596-3602 ft, flowing 490 bbls oil daily through 6⅝-in cas by heads, td 3610 ft. Doty Norman A-1, 3-18-13, lcn. Doty Norman B-1, 3-18-13, lcn. Henry Norman 1, 3-18-13, dk. Marine Oil Co.'s W. B. Thompson D-1, 3-18-13, rig up and sd. P. Winn Est. A-2, ta 3586 ft.

WASHINGTON COUNTY—Lincoln Lease Holding Synd.'s' Townsite 1, 3-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 2-16-32, ta 650 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

MISSISSIPPI

Company, Well and Location	Initial Production Bbls.	Depth
RANKIN COUNTY—		
United Gas Pub. Serv. Co., Hartfield A-1, 7-5-2e	sw	2539

ADAMS COUNTY Ark., La., P. L. Co.'s Brandon Halls Farms, Inc. 1, 32-8n-1w, lcn.

CLARKE COUNTY (Quitman Dist.)—Gulf Ref. Co.'s Long Bell Lbr. Co. 1, sw sw 10-2n, 16e, lcn.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-5e, elev 270 ft, arr res, td 4308 ft.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13s-3e, sd wo 6-inch cas, td 1505 ft.

COVINGTON COUNTY (Collins Dist.)—Gulf Ref. Co.'s Pope 1, 35-8n-16w, lubricating to recov frozen drill pipe, td in Wilcox 4518 ft.

HUMPHRIES COUNTY — Danciger O&R Co.'s Bellgrade Lbr. Co. 1, nw nw 29-14n-4w, dk.

JASPER COUNTY (Bay Springs Dist.)—Bay Springs Pet. Inc.'s J. H. Keyes 1, 21-2n-10e, r to bot, td 2032 ft in Wilcox.

JEFFERSON COUNTY — M. M. Stokes' School Board 1, 14-10n-2w, 12-inch 125 ft, dr 730 ft.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-15-19, ta in brown sand 3007 ft. P. J. McAlpine's Cowart 1, 2-12s-19w, repr leaking 6⅝ cas, dr gray lime 3016 ft. Associated Royalties' School Board 1, sw se 16-15-17, ta 60 ft.

NEWTON COUNTY (Newton Dist.)—Dalton Dev. Co.'s Majure 1, 25-6n-11e, rig.

NOXUBEE COUNTY (Macon Dist.)—Geo. R. Thompson's Donahue 1, 25-16n-17e, elev 280 ft, sp 12½ cas 20 ft top Eutaw 477 ft, sd repr rig 711 ft.

RANKIN COUNTY (Jackson Dist.)—Love et al's Muse 1, 32-7n-4e, sd wo in black shale 4000 ft. Atkisson et al's Valentour 1, Hartfield A-1, 7-5-2e, elev 272 ft, top black shale 2430 ft, top chalk 2524 ft, sw abn, td 2539 ft. Gulf Ref. Co.'s Hanna A-1, 23-6-1e, 15½ cas 82 ft 12½ cas 840 ft, dr 1060 ft.

SCOTT COUNTY—Gulley et al's Owen 1, 2-8n-9e, dk.

WARREN COUNTY (Vicksburg Dist.)—Eagle Lake O&G Co.'s Kiger 1, 9-18n-2e, dr Cane River shale 2360 ft.

WINSTON COUNTY (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, 15-13n-14e, dr 3450 ft.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 2, 14-11s-4w, dr 3476 ft.

ALABAMA

MADISON COUNTY — Tennessee Valley O&G Co.'s Fee 4, 1-4s-2e, no report.

SUMTER COUNTY (Livingston Dist.)—Forked Lightning O&G Co.'s Nixon 1, 30-20-2w, dk.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, driving 8-inch pipe below 1000 ft.; Hibson Bros. 1, 9-8-2w, ta 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, ta 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, arr res, td 2289 ft.

▼ LETTERS ▼

Below we are printing a communication from Joe Danciger of Danciger Oil & Refining Company of Fort Worth. He sent us a much larger communication some time ago and we told him if he would reduce its length somewhat we would print it.

We are making good on that promise.

But somehow or other we would feel that Mr. Danciger, in the role of a Moses for the oil industry would have a mantle more fitting for that role if the Danciger Oil & Refining Company, through its actions in the past, had made good to a great extent as a champion of the independent through actions, rather than words. In other words, if a refining company in which he is reputed to be one of the guiding geniuses had not paid these same independents he wants to save less for their oil than the prices posted by these major companies then Mr. Danciger's valuation as a champion would be higher than it is with us.—EDITOR.

"Why Proration Is Unsound and Iniquitous:"

It is high time that the independent oil producers of this state were waking up to the dangers of proration, which will not only destroy their business but will prevent them from ever again engaging in the oil business.

Those who treat this matter lightly are assuming the attitude of the Roman emperor who played his fiddle while Rome burned.

How can an independent oil producer expect to exist when under proration his production is limited, the price cut almost to nothing, while his competitors (the major companies), with their enormous financial resources, can drill any number of wells they wish, and on a basis of their inflated production, through both actual and fictitious potential production of their wells, can regulate the amount of oil the small operator can produce and at the same time fix the price the independent producer is paid for his product?

Under the present system used by purchasers, with the full consent and permission of the railroad commission of this state, they are allowed to nominate that they will run only 25 per cent or 50 per cent or less of the oil produced in some fields, while they develop new fields, run new pipe lines, and, where they have the majority of leases, they may nominate that they will run 100 per cent of the oil from such fields, in addition to flooding the country with their own foreign oil.

Even if oil were taken ratably, according to the potential production of each well, not only in this state but in every other state, there is nothing to prevent

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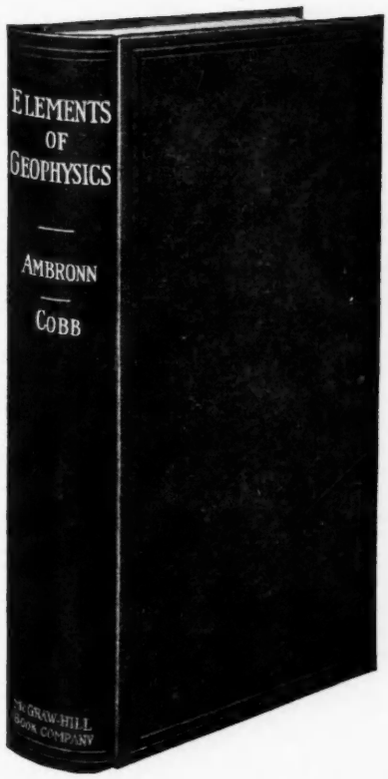

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the major companies, with their tremendous financial resources, from putting the independent producer entirely out of business by drilling so many wells, which they are now doing in East Texas, that his production, in comparison with theirs, would be so small that he could not continue in business, even if oil were raised to $2.00 a barrel.

They did not build their institutions under proration and the independent producer cannot even exist unden proration.

Surely by this time it is clear that there never was any good faith on the part of the major companies in the whole scheme of proration, and unless there is some degree of honesty and fairness in a trade it is a bad trade for the unprotected.

Under proration, while the production of the country has declined about 700,000 barrels per day, these major companies, who are quick to take advantage of their competitors' distress, arbitrarily cut the price nearly in half, even before the East Texas field was developed!

It should be remembered that when proration was first proposed the representatives of these major companies, in open meeting, gave the independent producers ample assurance that the price would be improved or at least stabilized, and indicated that useless drilling would naturally be eliminated.

Proration has proven to be nothing more nor less than a gigantic confidence game worked on the independent producer, and which, if continued, will give these major interests the complete monopoly of the oil business which they seek.

Their object, while keeping the other fellow's oil in the ground, is to pay practically nothing for the small amount they actually purchase while they appropriate the market to their own use and benefit.

That has already happened and it is only reasonable to believe that it will continue under proration unless some act of Providence has injected a larger measure of charity in their hearts than has ever before been known to exist.

It is futile to look for fair play, much less charity, from these major interests, who seek only an absolute monopoly of the oil business and the complete elimination of the independent producer, independent pipe line owner and independent refiner.

For over 40 years the oil industry, including the independent producer and refiner, has prospered under the law of supply and demand, and proration is only a disease on the commercial body of the oil industry, which will prove fatal unless removed.

Proration sounds reasonable, but with insincerity, deceit and double-dealing, it is worse than a failure.

Those who believe that under proration the price will improve are showing a measure of optimism not at all justified by what has happened under proration in the past.

If the major interests wanted to do so they could at this moment raise the price of oil and gasoline to at least cover the cost of production, but they are not ready for that until they fill their storage with cheap oil.

Under proration the independent simply puts his head in a noose in the vain hope of bettering the price while, in reality, he is only entering an agreement to restrict his production while the major interests take practically the entire oil market and enslave the independent ever afterward.

Since there is no measure of fairness or equity in the proration scheme, why agree to something that is utterly foolish and which will not help the independent in any way, but will only prostrate his business still further and to the tremendous advantage of the major interests, and postpone stabilization indefinitely?

Under the law of supply and demand, and without proration, if the major interests did not want oil run to independent refiners at low prices, they would be obliged to do as they have done for the past 40 years: namely, to raise the price of crude oil so as to reduce or eliminate the independent refiner's profit, and this naturally helps the market for the independent producer under normal and natural competitive conditions.

The independent refiner knows his position in the competitive world, and is the only instrument of competition between the major interests and the independent oil producers.

Proration gives the major interests a two-edged sword, one edge with which to mow down the independent producers by limiting their production and more easily controlling the price, and the other edge to mow down the independent refiners by making it difficult if not actually impossible for them to get any oil under proration even though it sold at five cents a barrel.

Proration has proven to be a method by which the production of the independent producer is prorated and under which the supply of the independent refiner is prorated while these major interests, with they fancy system of nominations, extensive pipe lines, fictitious potentials, importing facilities for foreign oil, large storage facilities, and financial ability to drill unlimited wells have not been hindered in their orgy of production and refining to the extent of one single barrel during the entire time proration has been enforced.

With reference to proration being a conservation necessity, as indicated by occasional testimony of so-called expert witnesses, every practical operator knows that such a claim is untrue, because retarding the flow of some wells practically ruins them, while, under certain conditions, the retarding of production, especially of edge wells in some oil fields, sometimes is a benefit, but that depends on the characteristics of the individual well and the peculiarities of the individual

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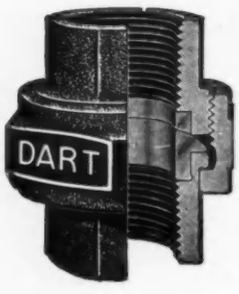

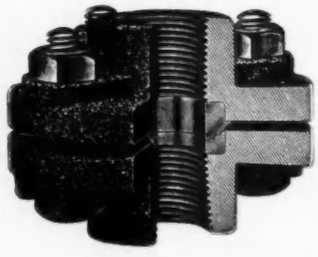

field, and no law is necessary to make a practical oil operator protect his property.

The present laws of Texas are entirely adequate and amply prevent careless operators from doing anything that causes actual physical waste or damage by water, and this law is a benefit to all producers.

A determined effort is now being made to repeal the obnoxious proration laws of Oklahoma and California.

To call a special session of the legislature of this state to legalize the commercial crimes committed in the name of proration and in the fond but vain hope that proration would cause an increase in the price of crude oil and benefit the independent operator, would only be adding insult to injuries already inflicted.

JOE DANCIGER,
Danciger Oil & Refining Company, Fort Worth, Texas.

As this seems to be an open season for opinions and discussions about the condition of the oil industry, with many remedies and curealls being offered and none of them seem to be doing any good I supposed one more or less, can do no harm, and if any good comes of the idea it will have cost me very little.

As I am not an educated man, having only acquired my B.S. degree in "Corn Stalk Kollege," 1900 to 1905, so please overlook gramatical blunders. Since leaving good old "Cornstalk" I have learned a few other things, and along with them a little about the oil business and have discovered that it takes a shrewd man with some money and lots of "guts" and energy to make anything at the game even in normal times.

I will not attempt to deal with the cause of present conditions as that has been hashed over so much that it is old stuff. What is needed is a remedy and to do any good must be put into effect at the soonest possible time.

My idea is this: since the federal government took a hand in the shipping business, the grain business, the banking business, the railroad business, the federal land loan business, the cotton business and drouth relief measures why can not it do something to save the oil industry, which is a larger one than any of the others and the distress seems to be greater? If the federal government would form a holding corporation and borrow about five hundred million dollars at say two years, returnable on or before, and announce its intention of erecting ample storage, say 100,000,000 barrels, at strategical locations along the Gulf Coast and near the major pipe lines and then force the pipe lines to convey the oil to this storage at a nominal charge, the government or holding corporation would then start buying oil or advancing a certain amount per barrel, say 30 cents, to those that did not have an outlet for it and hold it in storage until the market was favorable then sell it and give the producer the residue after all charges had been deducted. In other words, handled on a similar plan, as the cotton marketing system is handled. It is the writer's opinion that the plan is entirely feasible and my reason for thinking so is that it is not impossible to form the corporation, and once that is done they will have to purchase very little oil or advance very little money and build very little storage; for just as soon as the major companies see that they are in for competition, and the independents see some relief, they will listen to reason and not dump their good oil on a demoralized market at any price they can get, and we will soon be getting a fair price for our oil.

Of course there is that "IF" the government will do, etc. It has been done before in other industries, why not in the oil? It surely won't hurt to try to get the government to consider the plan, even if it should be necessary to call congress to extra session, surely the cause deserves it. But then if the government refuses to listen or consider the plan it is high time that something is started to find out just why it cannot or will not do anything to avert disaster to the largest industry in existence.

If you care to give this space in your columns, but do not care to sponsor it you may publish under my nom de plume, "Corn Stalk" Johnson.

C. J. Crawford of the Cia Mexicana De Petroleo, "El Aguila" S. A., was a recent visitor in Houston, spending a few days with his brother L. W. Crawford of Gulf Refining Company. Mr. Crawford, a refinery construction engineer, built the Dutch Shell refinery at Aruba, Dutch West Indies, which was completed in 1929, and is now on his way back to Mexico City from Buenos Aires, where he was in charge of the construction of the Dutch Shell refinery during the past year.

E. G. Allen, superintendent of production in the Southern district for Shell Petroleum Corporation with headquarters at Dallas, departed last week for a vacation in California.

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Field Gas Testing. Analysis of oil field brines, gas minerals and oil.
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WEST TEXAS
County Maps — Combination Maps
Descriptions and prices on application
Heydrick Mapping Co.
WICHITA FALLS, TEXAS

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CARDWELL ALLSTEEL
HYATT BEARINGS
QUALITY IS ALWAYS ECONOMY
MANUFACTURERS OF
OILFIELD WINCHES, PIPELINE WINCHES AND BACKFILLERS
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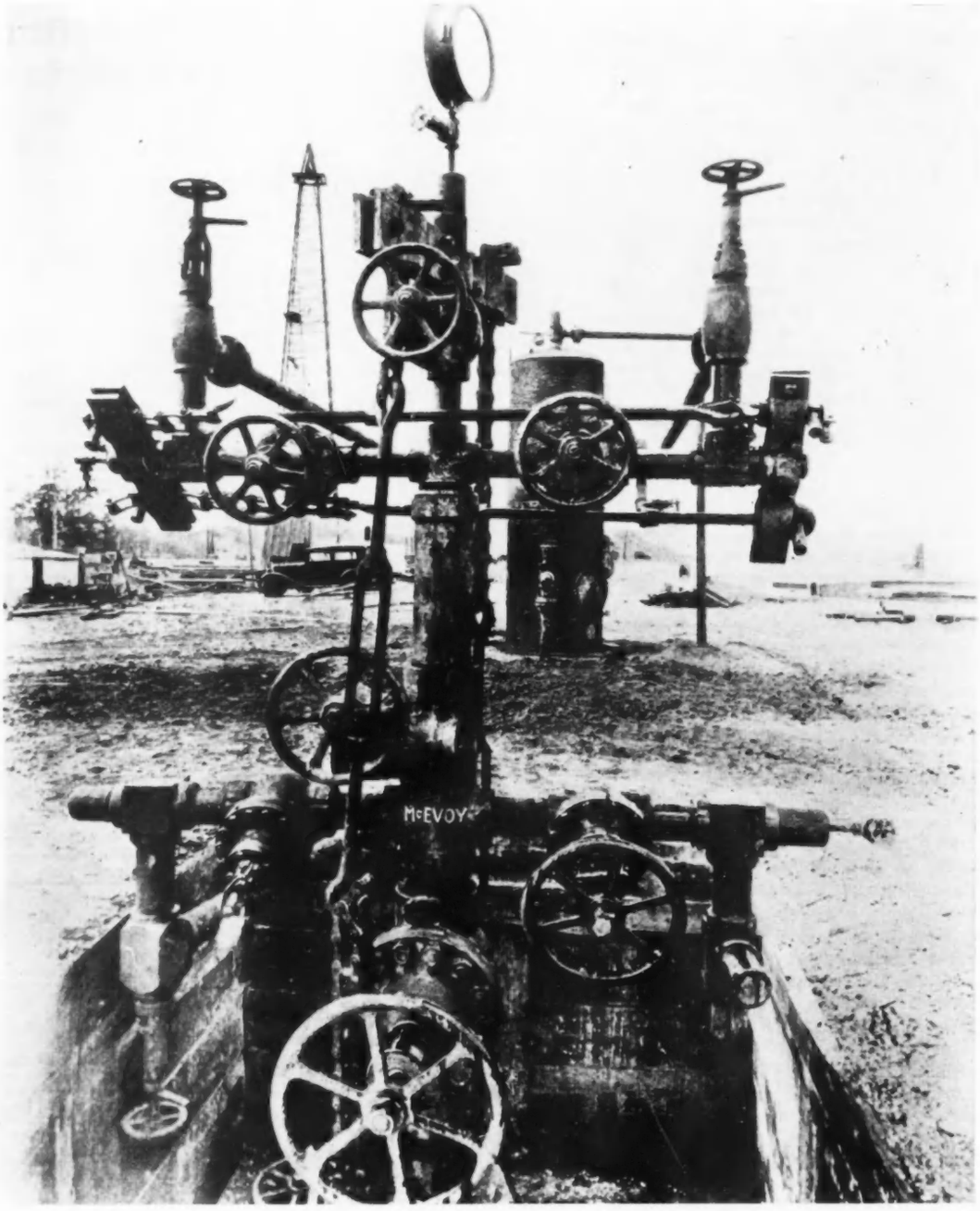


THIS IS A PHOTOGRAPH OF A MCEVOY UNIVERSAL RETRACTOR INSTALLATION IN THE EAST TEXAS FIELD. THE RETRACTOR PARTS THE TUBING AT THE GATE VALVE. IF SOMETHING HAPPENS, SUCH AS LIGHTNING AND FIRE NEARBY, OR IF SAND-CUT OR LEAKING CONNECTIONS BEGIN TO SPRAY OIL, SPIN THE RETRACTOR HAND WHEEL THIRTY TURNS, THEN CLOSE THE GATE VALVE. THE ENTIRE CHRISTMAS TREE INCLUDING RETRACTOR CAN THEN BE REMOVED IF NECESSARY. (WITHOUT IT GATE VALVE CANNOT BE CLOSED, BECAUSE OF TUBING HANGING THROUGH IT.) USE A RETRACTOR TO GET THE COMFORTABLE FEELING OF SAFETY: THE WAY TO MAKE MONEY IS TO HAVE NO TROUBLE.

New Equipment for the Field

MACHINERY-TOOLS CATALOGS-BOOKS

▼ ▼ ▼

New Gas Burner for Boilers

EVANS BROTHERS BURNER COMPANY

Evans Brothers Burner Company, 1126 North Boston Place, Tulsa, recently introduced into the East Texas field the new Evans low pressure gas burner for boilers.

The burner chambers are welded onto two-inch pipe with air slot on each side at the base to pull air into the mixing chamber. Gas goes into the head, hits the crown sheet to spread the blaze through the two slots of the head and throw the flame away from the head to prevent heating.

Draft air, due to this burner design, going into the boiler drafts under the mud rim and goes through the blaze to be superheated before entering the flues. The burner is simply made, with few parts, and requires no brick nor banking around the boiler. The hangers used with this burner are adjustable and will fit any size or make of boiler. The burner is made in two and three-manifold.

Complete details will be furnished by the manufacturers upon request to P. O. Box 1649, Tulsa.

New Type Oxweld Goggles

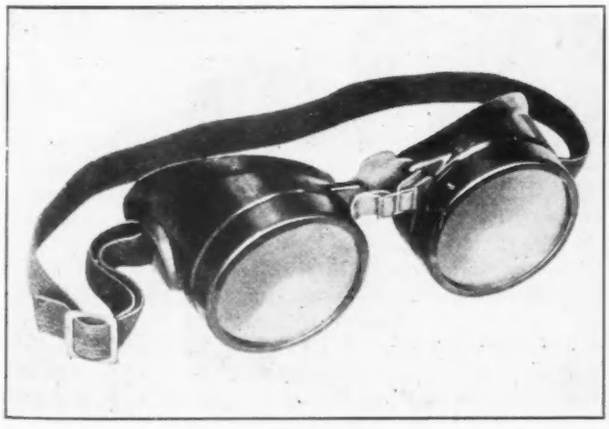
LINDE AIR PRODUCTS COMPANY

Linde Air Products Company, New York, has recently introduced a new type of welders' goggles, designated as Oxweld No. 12 goggles.

They are designed to fit the eyes and are adjustable to conform to the individual nose. Patented ventilation ports on each side of the eye-cups are so constructed that it is impossible for sparks or light to reach the inside of the cup. The field of vision has been increased by the use of 50 mm. diameter lenses instead of the usual 47 mm. lenses. Brown color lenses are available, and in addition, a new green lens is available in three different shades. Lenses may be changed by removing the metal cups which unscrew from frames of the eye-pieces.

The material of which these goggles are made is a molded plastic substance known as Oxweldite, which is formed over a fabric base and is resistant to heat, light and electric current, according to the manufacturers.

Additional information may be obtained from the Linde Air Products Company, 30 East 42 Street, New York, N. Y.



Oxweld Goggles

Monobloc Pumping Unit

WORTHINGTON PUMP & MACHINERY CORPORATION

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has placed on the market a "Monobloc Type D" centrifugal pump of good efficiency and low initial cost.

The pump, simple and rugged, is bolted to the extended motor frame and the impeller is mounted on the end of the continuous motor shaft. The bronze impeller incorporates the shaft sleeve as an integral part. The special cadmium-plated steel locking device for the impeller, the forged bronze packing gland, and the arrangement of shaft water-throwers, are other important features of this pump.

Applications of this new unit are many, and it should be of exceptional value as a built-in part of assembled equipments such as air conditioning apparatus, dish, bottle, can and metal-parts washing machinery, filters and filter systems, core sucking units, brine circulation, and booster service for sprinkler systems.

Detailed information will be sent upon request to Worthington Pump and Machinery Corporation, Harrison, New Jersey.

Rollway Bearing Company, Incorporated, Syracuse, recently issued Catalog No. 3-C, superseding Catalogs No. 3-A and 3-B.

In addition to displaying the various products of the company, there are discussions of load capacities and factors of safety, numerous tables of dimensions and load ratings, mechanical drawings showing applications of the various types of bearings, and tables of tolerances and fits. Also the catalog contains expositions on mounting radial and thrust bearings and on the lubrication of same.

Bearing types pictorially cataloged and verbally described in the issue include full roller radial, floating full roller radial, self-aligning full roller radial, floating aligning full roller radial, separator, separator radial, aligning separator radial, roller bearings for roller mills, roll neck, thrust, self-acting thrust, aligning self-acting thrust, aligning double-acting thrust, crane hook, self aligning pillow blocks.

A copy of the catalog may be obtained from Rollway Bearing Company, Incorporated, Syracuse, New York.

Multibestos Company, Cambridge, Masssachusetts, manufacturers of brake lining and clutch facings, announces the appointment of E. H. McGraw to the sales force. Mr. McGraw has for the past 10 years been working in the automotive industry. His work will be in connection with service of Multibestos Brake Service Institute at United Motor Service, 1624 Hunting Park Avenue, Philadelphia.

Double Drum Skid Winch

ALLSTEEL PRODUCTS MANUFACTURING COMPANY

Allsteel Products Manufacturing Company, Wichita, has placed on the market a new Model ES-50 double drum skid winch, supplied in either double or single drum models, designed especially for servicing and reclamation work.

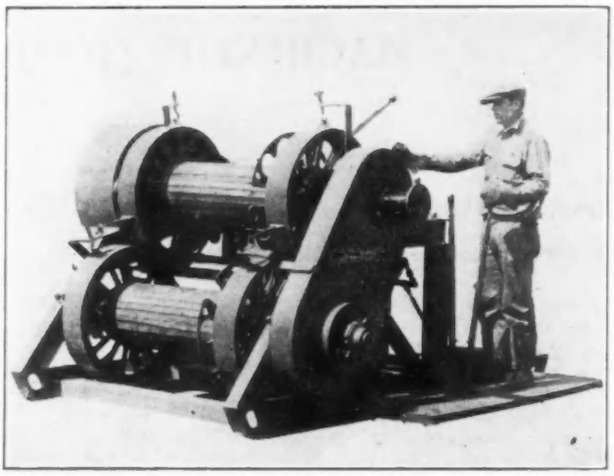
The winch is fast and flexible, according to the manufacturers, and is adaptable to either gasoline or electric power.

The drum clutches are of cast steel, dental type, with jig machined jaws. Hyatt bearings are used throughout. The drums have cast steel flanges, reinforced steel tube barrels, electrically welded.

Brakes on the winch are double, equalized and self-energizing. Each drum has 960 square inches of effective braking area.

There is a special Cotta transmission of four speeds, extra heavy duty, constant mesh, non-sliding type. Sprockets are of cut steel, demountable rim type, bolt fastened to steel hubs.

A bulletin giving complete specifications on the winch may be obtained by writing Allsteel Products Manufacturing Company, Wichita, Kansas.



Oklahoma City Experience Develops Equipment and Methods For Handling High Pressures

(*Continued from page 20*)

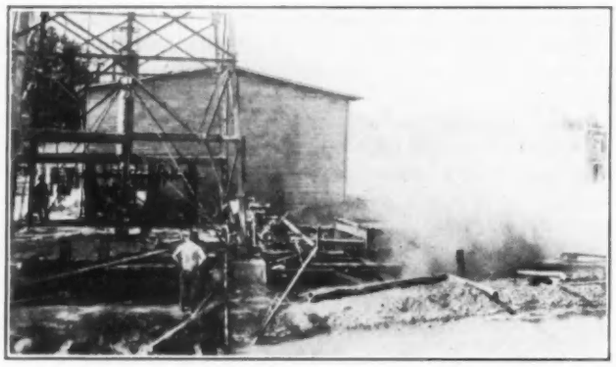
pany, is of questionable success since several wells completed in this manner have later cut out connections.

Redesigned Connections

From the time of introduction of the Reed head, which eliminated 90 degree turns in the flow line, all connections have been designed with turns of 45 degrees or less. Early experiments with the mud hog method utilized bolted connections in the flow line. These later gave way to the almost exclusive use of welded turns. Engineers and production superintendents were of the opinion that smaller sand hogs could be used.

T. B. Slick Oil Company designed an expansion chamber which was made of a short length of large pipe swaged-welded at both ends and securely tied down by the use of turn-buckle rods into the cellar and radiating outward to the derrick legs. This chamber has been used on a large number of wells in the northern portion of the pool.

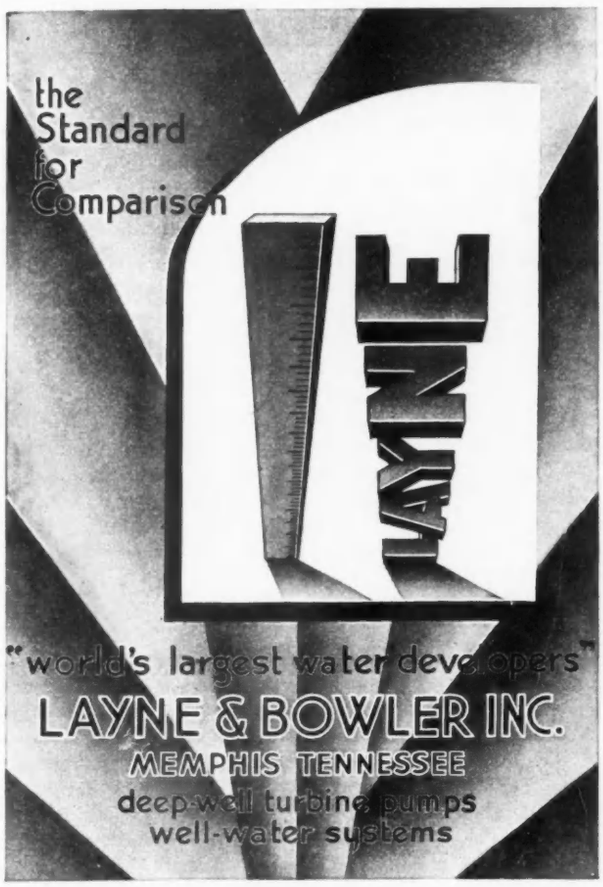
A present method, known as the B. S. and B. cushion drum is a refinement of the Slick method. This consists of a drum 30 inches in diameter and approximately eight feet long. Three master gates are joined by use of the American "tiedown" flange which permits removal of connections down to the companion flange without having to relieve hold-down bolts on the gate valve. The flange is grooved according to the packing ring or gasket of the gates that are to be used. Each part of the Christmas tree is securely held down by turn-buckle rods and a lead filled bull plug is placed in the top of the cushion drum. When the well has been bailed down to the point of flow the gates are closed and the drum installed and connected to the separators. The gates are opened to the slush pit and all mud and sand blown in that direction. When the well is cleaned oil and gas are diverted to the main separators and the well is ready for its four-hour potential gauge which must be taken before it as allowed to run oil from the lease.

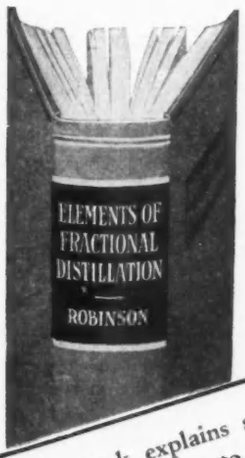


R. A. McArthur et al's Kammerdiener 1, Section 3-11-3w, illustrating a popular method of completing town-lot wells. Mud, sand and water are blown into the pits while gas goes through the separators and out the vents.

Illustrative of the sand difficulties that have been encountered the record of Phillips Petroleum Company's Sam 1, Section 3-11n-3w, is perhaps representative of many Wilcox wells. Six and five-eighths casing was set at 6275 feet, four feet above the top of the Wilcox sand which was logged from 6279 to 6395 feet. Total depth was 6400 feet making 125 feet of open hole all but the last few feet of which was highly abrasive sand. Initial flow was taken through a 4½-inch choke. During the first 2½ hours 5570 barrels of space was filled in the tanks. When the oil was drained off it was found that 1262 barrels of sand had been produced or at the rate of 561 barrels of sand and approximately 1900 barrels of oil per hour. Gas was estimated at 62,000,000 cubic feet.

The present methods although differing in appearance from the Reed head, utilize the same fundamental principle. Each is designed to furnish an expansion chamber for gas and a chamber wherein velocity of the sand is momentarily decreased. The ideal hook-up probably has not been reached since no connection yet designed can be guaranteed to withstand all of the abuses of high pressure wells blowing large amounts of sand.





Elements of Fractional Distillation

By
Clark Shove Robinson
Assistant Professor of Chemical Engineering, Massachusetts' Institute of Technology

$3.00

This book explains simply and accurately, according to the best ideas of physical chemistry and chemical engineering, the principles of fractional distillation, illustrating these principles with carefully selected applications.

204 pages
5½ x 8, illustrated.

INTERNATIONAL CHEMICAL SERIES

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--Drill with ASSURANCE--

Prevailing prices of crude prohibit needless waste in drilling costs. Yet such costs can mount amazingly when the driller deviates from the vertical.

We have provided the oil man with a common-sense, safe and sure method for ascertaining the direction of his bore hole. The SYFO Clinograph establishes beyond the possibility of doubt any diversion from the perpendicular. It tells how much and it tells it on paper—a permanent record.

Accurate, quick and inexpensive, the SYFO Clinograph furnishes daily records of deviation in drilling—obtained *without the use of dangerous acids.* You can use the SYFO on wire line running through drill stem, on sand or bailing line in open hole or by the "Go-Devil" method.

Write for complete literature, also for information on the SURWEL Gyroscopic Clinograph.

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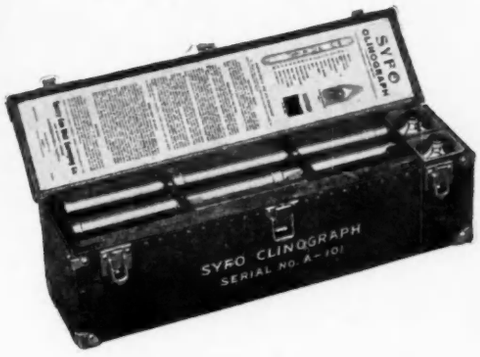


SYFO CLINOGRAPH

Manufacturer and Supply Dealer Notes

▼ ▼ ▼

Whittier Sales Corporation, Ltd., has been formed with headquarters at Whittier, California, to act as sales representative of manufacturers selling the oil producer. The Corporation is handling Crum-Brainard core barrels, Richart perforator, drilling bits and Los Angeles Boiler Works line. Other lines are to be added after July 1. Roy Guthrie is president and general manager. Other officers are: V. A. Mitchell, vice president and treasurer; J. C. Smitherman, vice president and secretary; Harvey Davis, sales manager and director, and Stuart D. Anderson, director and attorney. All of the officers are former salesmen for well known California manufacturers, except Mr. Anderson.

Hiram E. Cassidy has been elected vice president of The McCarty Company, industrial and technical advertising counsellors. He has been associated with that organization for the past two years and was formerly director of sales research and advertising for Axelson Manufacturing Company. The company recently expanded, taking new offices in the Bendix building, Los Angeles, doubling its former office space, and expects to open a branch office in San Francisco shortly. The McCarty Company handles the complete advertising campaigns for about 35 industrial companies in California.

U. S. Hame Company of Buffalo announces that it has purchased the assets of both Lawson Manufacturing Company of Cleveland, and Warner Hammer Company of Cromwell, Connecticut. Lawson Manufacturing Company manufactured the Lawson wrench, known as the wrench with the angle handle. Warner hammers and chisels will be branded as USHCO Warner tools.

Officers of U. S. Hame Company are R. P. Carr, president; J. M. Glaser, vice president; T. W. Porter, vice president; R. W. Southard, secretary, and R. U. Carr, treasurer.

Sales activities on these lines will be under direction of T. W. Porter, vice president in charge of sales. Robert H. Blockall will continue in charge of the equipment division, and the general trade will be reached by U. S. Hame Company sales force, assisted by manufacturers' agents, who will be appointed to cover various territories.

Byron Jackson Company's oil tool division, Mid-Continent sales office and warehouse was removed from Tulsa to Fort Worth, effective July 20. This action was made to enable Byron Jackson Company to render better service to the Mid-Continent territory, and from a more central location. All communications and inquiries should be addressed to Byron Jackson Company, 2505 Boaz Street, Fort Worth; the local telephone number is 2-8373 and the long distance LD 27. The company extends a cordial invitation to all oil men to visit the new warehouse.

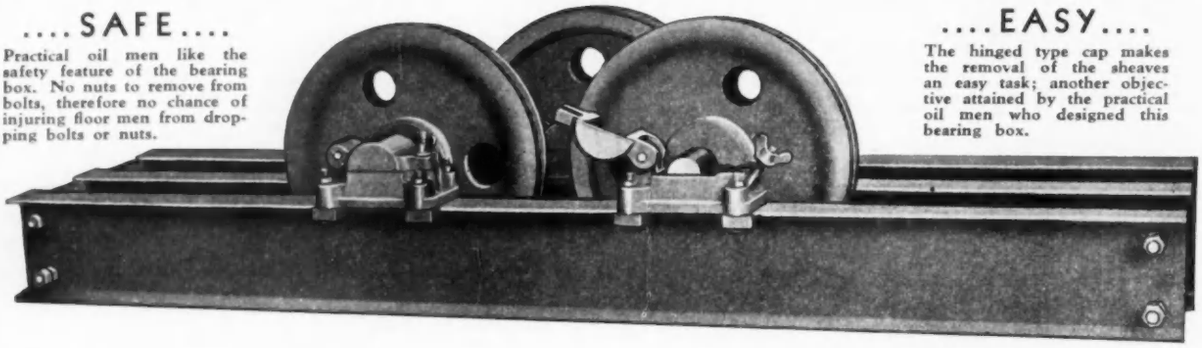
OIL MEN LIKE THE GULFCO

ADJUSTABLE BEARING

PUMPING CROWN BLOCK

....SAFE....

Practical oil men like the safety feature of the bearing box. No nuts to remove from bolts, therefore no chance of injuring floor men from dropping bolts or nuts.



....EASY....

The hinged type cap makes the removal of the sheaves an easy task; another objective attained by the practical oil men who designed this bearing box.

SHEAVES EASILY SPACED
ANY DISTANCE FROM CENTER

The boxes are held in place by iron lugs, which are securely bolted from box to "I" beam. The bolts are simply loosened if an adjustment is wanted, and the sheaves spaced with ease.

Write for Catalog and Prices . . . TODAY

GULF COAST MACHINE & SUPPLY COMPANY

P. O. BOX 1454
HOUSTON, TEXAS

P. O. BOX 999
BEAUMONT, TEXAS

Squeaks From the Bull Wheel

▼ ▼ ▼

Young Wife—Going out again? Two years ago, you said I was your whole world.

Husband—Yes, and it is surprising how much geography one can learn in two years.

When a fireman who had gallantly lost his life in action was buried, his comrades, as a token of affection for their dead hero, covered his casket with a magnificent funeral sheaf, inscribed with the words:

"Gone to His Last Fire."

Chief—Did you mail that letter?

Office Boy—Yes, sir.

Chief—Idiot, didn't you see that it had no address on it?

Office Boy—Yes, sir, but I thought that was intentional, so that I should not see to whom you were writing.

The minister called at the Jones home one Sunday afternoon, and little Willie answered the bell. "Pa ain't home," he announced. "He went over to the golf club."

The minister's brow darkened, and Willie hastened to explain: "Oh, he ain't gonna play any golf. Not on Sunday. He just went over for a few highballs and a little stud poker."

Smith bought a parrot, which he was assured was a good talker and would soon learn to repeat everything spoken in its presence.

A month later, however, he returned to the shop with the bird.

"What's the matter with the parrot?" asked the dealer.

"W-w-why," replied Smith, "the d-d-darn b-b-bird s-s-stutters."

"What's the parade all about?"

"They're giving a reception for the King of Arghanyssinia. He holds the world's endurance record for throne sitting."—Judge.

The railway tracks ran parallel with the fence of an insane asylum. A local train was doing some switching nearby, one of the brakemen flagging the rear end, when a male inmate peered over the fence at him and asked: "Are you working for the railroad?"

Brakeman—Yes.

Insane One—Do you work every day?

Brakeman—Yes.

Insane One—Do you work when it's cold and rainy, too?

Brakeman (wondering what the next question might be)—Yes.

Insane One (eyeing the brakeman for a full minute)—Then you are on the wrong side of the fence.

Henpeck (beaming)—Hurrah! I have won $10,000 in a lottery.

Mrs. Henpeck—Where did you get the money to buy the ticket?

The boss eyed the stenographer with a cold eye.

"Young lady," said he, "that filing cabinet is supposed to be very exact. How is it you can't find what you are looking for?"

"I'm looking for my lunch."

Asker—Would you be afraid to hunt grizzly bears with a club?

Teller—Not if there were enough members in the club.

Well, what is you alibi for speeding 50 miles an hour?

I had just heard, your honor, that the ladies of my wife's church were giving a rummage sale, and I was hurrying home to save my other pair of pants.

Case dismissed.

At Dinty Moore's the other night this one made them laugh loud. It deals with a fearless Italian, imported from the old country by Chicago gangsters to do the actual job of killing people.

They set him up in the fruit stand business, which was a "blind." At nights they paid him $200 to kill enemies. He always demanded and received the $200 in advance.

The other night he got his $200 and the "mob" pointed out a chap they wanted murdered. He proceeded with the job. Then he went to sleep.

A few hours later they aroused him. "You dope," they growled, "you knocked off the wrong guy and we paid you the $200."

"So aw right," he indifferently replied, as he stifled a yawn. "Da next one is on me."—New York Mirror.

I'm afraid you are ignoring our efficiency system, Jones.

Perhaps so, sir, but somebody has got to get the work done.

THE SHORTEST DISTANCE TO THE

MONEY POINT

Think of the immense amount of money invested in a well from the time of spudding in to the time when the driller stops at the MONEY POINT and the well begins to pay off.

That tremendous cost can be lessened by taking the straightest route to the MONEY POINT. You can drill a straighter hole with an APPLEMAN. Its self-sharpening edges give speed. Its water courses lead direct to the cutting edge, insuring the cuttings being rapidly broken up and washed away in solution.

SAVE MONEY by using APPLEMANS to take the shortest and straightest route to the MONEY POINT.

B.K. APPLEMAN
BEAUMONT, TEXAS

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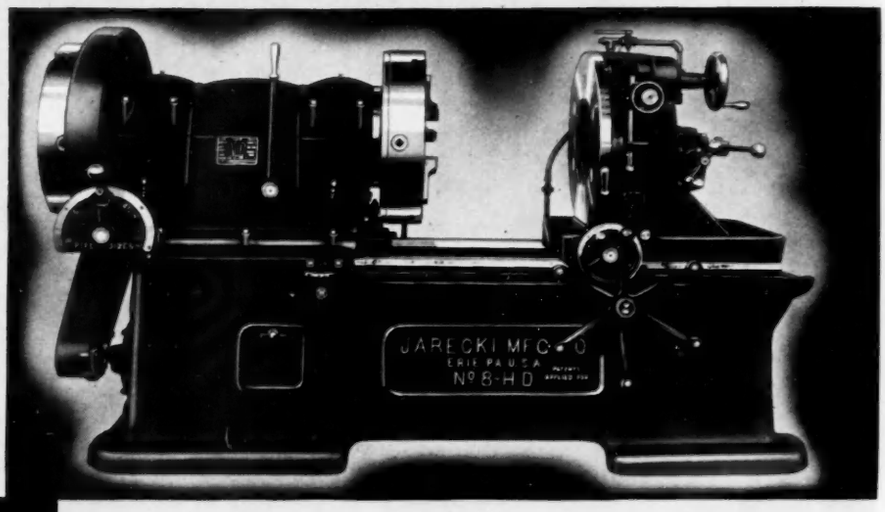
Never before

A PIPE THREADER LIKE THIS



features

One automatic self-opening die head covers complete capacity range.

One set of H. S. S. chasers threads complete standard range—changeable only for thread or pitch variation. (In the 8-inch machine shown from 2½-inch to 8-inch without change.)

Chasers are easily and quickly changed. Screw-driver only tool required.

Chasers held in massive holders—no bushings.

Die-opening trigger, automatically opens chasers at correct thread length.

Cutting off and chamfering at same operation.

Gears are steel-cut, running in oil. Hardened chrome nickel steel wearing parts.

Timkem roller bearing equipped.

Extremely sturdy construction, based on half a century's experience in building threading machines. . . . . Exceptional reliability.

● Men in full position to know tell us that in the new JARECKI Pipe Threader our engineers have achieved not merely a machine but an epochal contribution to the field of industrial equipment. . . . Note the features at the left, each of the utmost importance. . . . Then ask us, in your own interest, to tell you the full story. . . . . Remember, nearly eighty years of fair dealing stand behind JARECKI products.

Branch stores at all important places in the Oil Country.

Jarecki

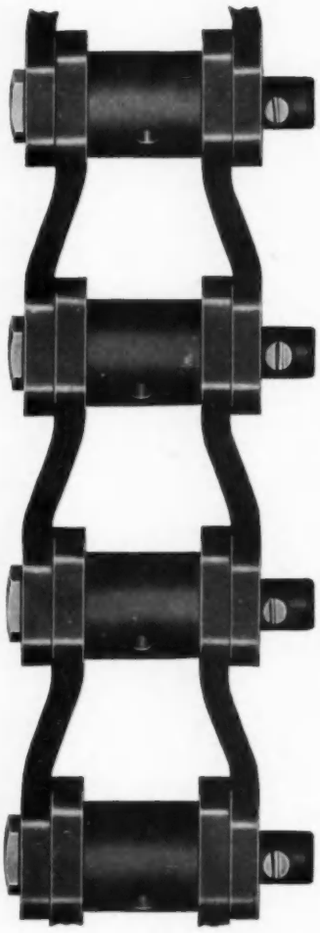
MANUFACTURING COMPANY

Home Office and Factory—ERIE, PA., U. S. A.

General Office—ST. LOUIS, MO.

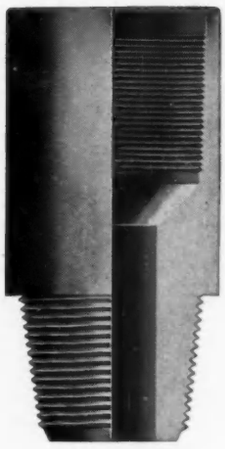
District Offices—Pittsburgh, Pa.; El Dorado, Kans.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

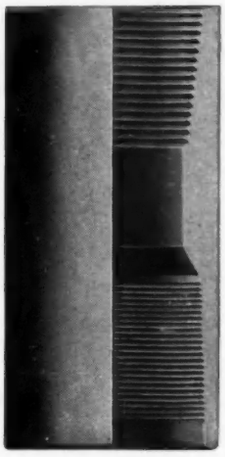
SPENGLER QUALITY



MEANS...

TIME
TESTED
AND
SUPERIOR





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Dependable All-Ways...

...Always Dependable

SPENGLER TOOL CO.

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